

THE OLD MILLS OF KOSOVO.

HISTORICAL BACKGROUND, DOCUMENTATION AND ANALYSIS.

Diplomarbeit

**THE OLD MILLS OF KOSOVO.
HISTORICAL BACKGROUND, DOCUMENTATION AND ANALYSIS.**

**ausgeführt zum Zwecke der Erlangung des akademischen Grades
eines Diplom-Ingenieurs / Diplom-Ingenieurin
unter der Leitung**

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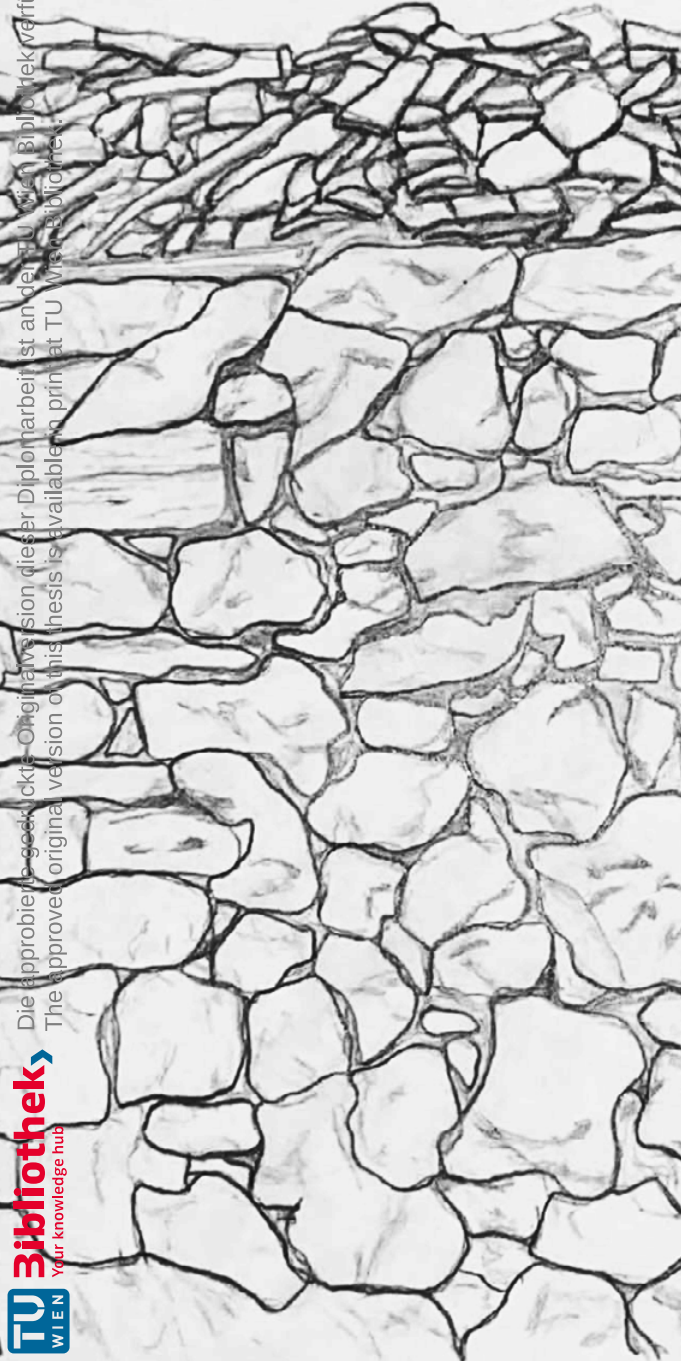
E 251 Institut für Kunstgeschichte, Bauforschung und Denkmalpflege
E251-01 Forschungsbereich Baugeschichte und Bauforschung

**eingereicht an der Technischen Universität Wien
Fakultät für Architektur und Raumplanung**

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Wien, September 2023



Abstract

Kosovo's cultural heritage encompasses a rich array of archaeological, architectural, spiritual heritage as well as cultural landscapes, and it is a noble part of the living environment and mentality. Although insufficiently explored, mill-buildings constitute one of the most important assets of the material cultural heritage in Kosovo. One may say that they now probably belong to a bygone era, but once they were of enormous importance to the people of these areas – a synonym of bread, hospitality and housing. Old and most of them almost completely abandoned, there are over 70 mill-buildings in Kosovo that still lack proper documentation, analysis and comparison between them. This research work intends to contribute to Kosovo's cultural heritage database, to provide an opportunity to better understand what influenced the architecture of this building typology, in addition to their economic and social importance, as well as eventually to pave the way for adaptive re-use designs.

Kurzfassung

Das kulturelle Erbe des Kosovo umfasst ein reiches Spektrum an archäologischem, architektonischem, spirituellem Erbe sowie Kulturlandschaften und ist ein edler Teil des Lebensumfelds und der Mentalität seiner Menschen. Obwohl unzureichend erforscht, gehören Mühlegebäude zu den wichtigsten Vermögenswerten des materiellen Kulturerbes im Kosovo. Man kann sagen, dass sie heute wohl einer vergangenen Zeit angehören, aber einst waren sie für die Menschen dieser Gegend von enormer Bedeutung – ein Synonym für Brot, Gastfreundschaft und Behausung. Alt und die meisten von ihnen fast vollständig verlassen, gibt es im Kosovo über 70 Mühlegebäude, denen es immer noch an angemessener Dokumentation, Analyse und Vergleich zwischen ihnen mangelt. Diese Forschungsarbeit soll zur Kulturerbe-Datenbank des Kosovo beitragen, um die Möglichkeit zu bieten, besser zu verstehen, was die Architektur dieser Gebäudetypologie zusätzlich zu ihrer wirtschaftlichen und sozialen Bedeutung beeinflusst hat, und schließlich den Weg für adaptive Wiederverwendungsdesigns zu ebnet.

Abstrakt

Trashëgimia kulturore e Kosovës përbëhet nga një mozaik i pasur i trashëgimisë arkeologjike, arkitekturale, shpirtërore dhe peisazheve kulturore, si dhe është pjesë e çmuar e mjedisit jetësor dhe mentalitetit të popullsisë së saj. Ndonëse pamjaftueshmërisht të eksploruara, ndërtesat e mullinjve përbëjnë një nga asetet më të rëndësishme të trashëgimisë materiale kulturore në Kosovë. Me të drejtë mund të thuhet se tanimë i përkasin një epoke të shkuar, por dikur kishin një rëndësi të madhe për njerëzit e këtyre zonave – ishin sinonim i bukës, mikpritjes dhe strehimit. Ndonëse të vjetër dhe shumica prej tyre pothuajse tërësisht të braktisur, në Kosovë janë mbi 70 mullinjë që ende kanë mangësi në dokumentim, analizë dhe krahasim të duhur mes tyre. Kjo punë kërkimore synon të kontribuojë në databazën e të dhënave të trashëgimisë kulturore të Kosovës, të ofrojë një mundësi për të kuptuar më mirë se çfarë ndikoi arkitekturën e kësaj tipologjie të ndërtesave, përveç rëndësisë së tyre ekonomike dhe sociale, si dhe eventualisht të lehtësojë aplikimin e dizajneve për ripërdorim.



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INTRODUCTION

The historical cultural heritage of a people represents the totality of the spiritual and material values created throughout its history; reflects the economic, social, political, religious and cultural development of its past and represents its centuries-long struggle to preserve its ethnic, linguistic and cultural identity.

In this context, Kosovo has a unique and rich culture and history where different ethnicities (Albanian, Serbian, Turkish, Bosnian, Roma, Ashkali, Egyptian, Goran, Croatian, etc) have lived together for centuries. Unfortunately, much of the material cultural heritage has been destroyed, looted and burned during the last war (Feb 28, 1998 – Jun 11, 1999). Nowadays, more than twenty years after the war, efforts are still being made to create a genuine database for the cultural heritage to be identified, recognized and presented to the people of Kosovo and beyond.

Apart from residential buildings, religious buildings, hammams, bridges etc., mill-buildings – in Albanian “Mullinjte” – constitute one of the most important assets of the material cultural heritage in Kosovo. Surprisingly, although one of the building typologies that in a dignified way – in addition to Albanian tower house “Kulla” – de-

fines and presents the distinctive elements of the Albanian architectural language of the Albanian craftsman, in one way or another, it has been neglected and not considered important in its own merit. Mainly located in villages and less in towns/cities, it seems as they are begging for care and attention.

The shadow that has covered these buildings and the lack of interest from the institutions, organizations or individuals that deal with cultural heritage in Kosovo, motivated my mentor Prof. Dr. Caroline Jäger-Klein, a distinguished expert of Kosovo’s architecture, to encourage me to address this topic by documenting and analyzing these mills. Nevertheless, as watermills throughout Kosovo are being abandoned, it is also quite difficult to collect information about this old technology of grain grinding and textile production. Indeed, following the introduction of electric mills, there are only a few mills that are still in good condition and could restart working again in the near future.

At the beginning of this research work, a brief part of it primarily deals with the topic of the watermill which should provide some knowledge about its early invention, operation, categorization and the current condition of these structures on a global scale.

Fig. 1 (previous page) Mill of Bërdynaj Family, Radavc, Peja

This will serve to understand on the basis of which principles mills in Kosovo operate and as well the level of mastery of their construction.

On the second chapter, and to be able to compare the watermills of Kosovo with other mills, the focus lies on the watermills on neighboring Balkan states. For this comparison to make sense, the watermills that are taken as examples belong to approximately the same time period of construction as the mills in Kosovo, and they either have similar or completely opposite elements. Consequently, this has helped to distinguish which architectural or structural elements can be considered as universal and which of them are autochthonous.

Before developing the research in a greater detail, it is also important to provide a brief overview on Kosovo, its position in the Balkans and its past. It is well known that, due to its geographic position and complex history since in the ancient Illyrian-Dardan epochs up to the transformation years in Tito's Yugoslavia, Kosovo has been a cross-road where the cultures of the East and West have constantly met. This of course reflected not only in the country's architectural environment but also in its overall identity. To further add to the overall picture, certain buildings will be presented and explained.

Almost all old mills in Kosovo are catego-

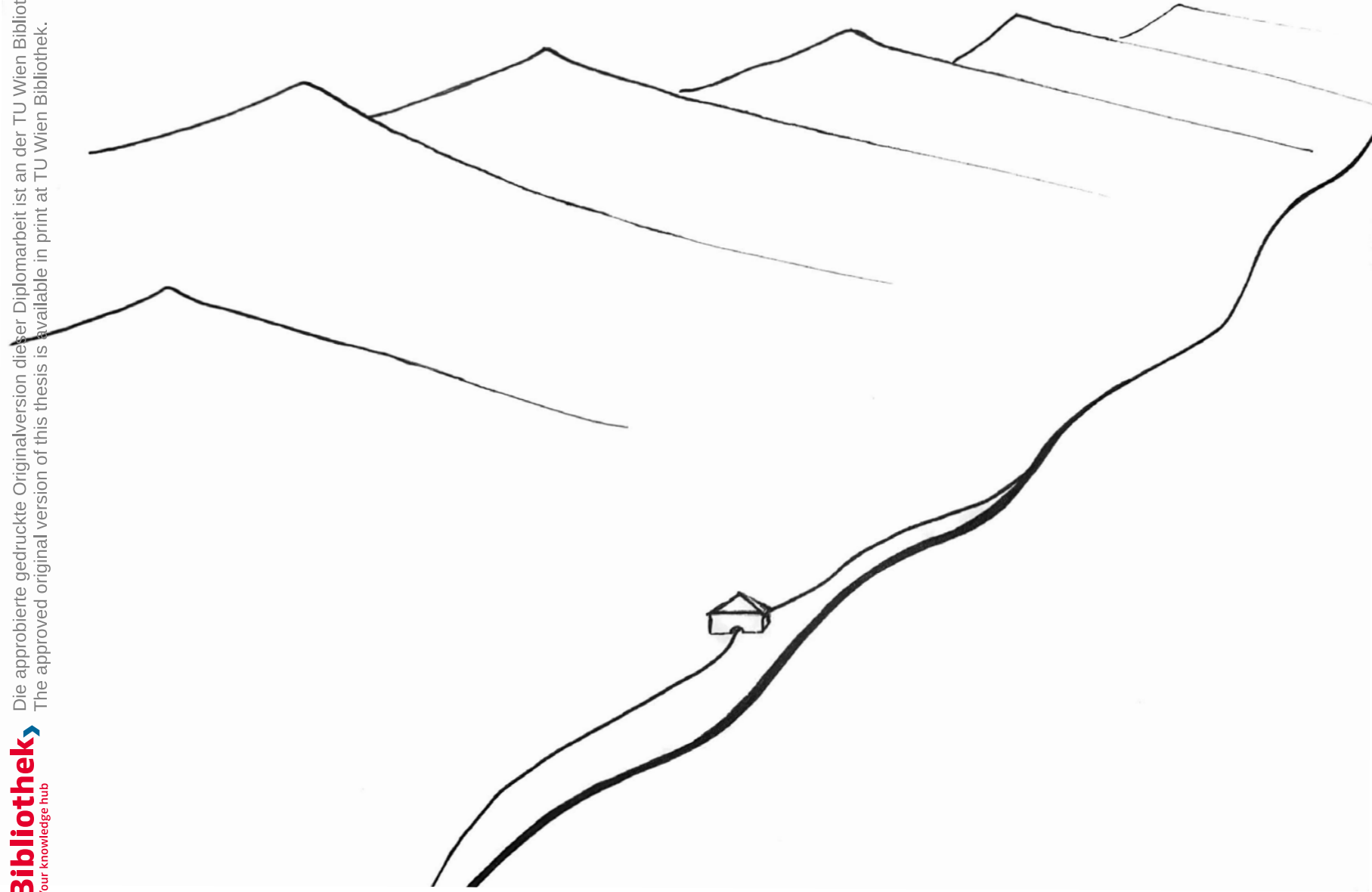
rized as gristmills, symbol of bread – and consequently of survival. Only few of them were used for the purpose of textile manufacturing, which, at the same time, give a slightly different tonality to this study. This chapter is titled “Bukë, kripë e zemër” (in English “Bread, salt and heart”), a phrase that expresses the Albanian hospitality and at the same indicates the poverty that existed in the Albanian speaking area in the past. Most families only had the basic food to survive, namely bread and salt. Bread was considered sacred, and in this sense, since prehistoric times, the construction of economic buildings which were used to store grain were given special importance. Analyzes carried out by other authors about the corn cribs and granaries as buildings that survived the time, will serve this research as a kind of basis to compare the morphology of construction and the architectural elements of these buildings with that of the mills. One can say that phraseologisms symbolize the culture, way of thinking, tradition and the history of a nation. For this reason, this chapter will also contain some inherited sayings and idioms among the generations where the word “mill” is mentioned.

The core of this work remains the documentation, analysis and comparison of the watermills. In order to achieve at a comprehensible result, several methods have been

used: on-site research, desk research and historical analysis. The Database of the Cultural Heritage of the Ministry of Culture, Youth and Sports of Kosovo, data collected from the Regional Centres for Cultural Heritage in Kosovo, documentations/interventions of CHwB Kosovo in some of the mills in Kosovo and researches from renowned authors in the field of vernacular architecture in Kosovo and in the Balkans have served as very important sources for this work. The watermills of Kosovo are also mentioned in various articles and Albanian literature – but unfortunately very few address the architectural and technical aspects of these buildings. Numerous interviews were therefore conducted to obtain a clearer picture of the differences between present and past building practice, architectural aspects and social importance they used to have to the people of these areas.

Analysis and evaluation of the existing situation can help to figure out an appropriate alternative use of these buildings, through raising the awareness of importance of their age and architectural values. The restoration of the historical buildings and their design are to be carried out in accordance with the national and international principles and guidelines of monument preservation. Therefore, through concrete examples and a brief analysis of the laws and their application in practice, this paper also encourages critical thinking about what may have stuck – what was done well and where improvements could be made. After all, a building can be preserved and protected from decaying only if it is continuously used but always in accordance with certain guidelines that aim to protect the full preservation of their authenticity.

1 MILLS.



² Trumler 2014, pp. 20-26

¹ Rüdinger & Oppermann 2012, p. 11

The history of mills begins long before our era and is closely linked to the development and civilization of mankind. It begins with the use of crop plants and thus the settling of hunter-gatherers into permanent dwellings that eventually morphed into complex societies in many parts of the world. Mills meant a revolution in all living conditions and most importantly they opened the doors (theoretically) to stable food supplies; because certain grains have always had to be crushed in order for the human organism to process them.¹

The oldest evidence of grain processing was discovered by the researchers in Israel. They found the remains of a millstone, as well as starch from wild barley and wheat, which may date back to around 20,000 BC. The first traces that indicate the use of hand-driven mills date from approx.

140,000 BC. It was only much later, around 500 BC, when larger rotating mills driven by humans or animals started to be used in the Greek colonies.

Fig. 2 (left) Sketch of a hand grain millstone

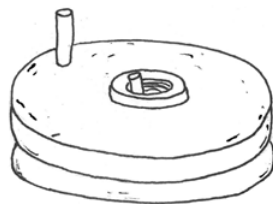
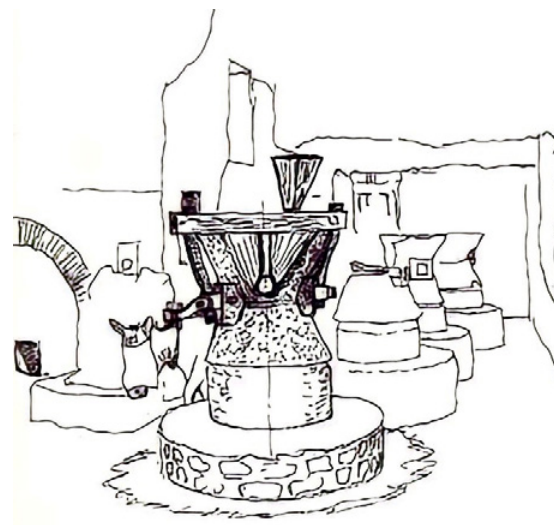


Fig. 3 (right) Ancient Roman hourglass watermills in Pompeii



In addition, there were smaller and portable hand-driven mills, which were used for farming needs and the army. During excavations in Pompeii, remains of numerous bakeries were found, which were equipped with so-called Roman Hourglass Mills. However, these mills also had to be driven by animals (horses, oxen) or slaves.²

One can say that the invention of mechanically-driven milling technology, and later of watermills, has played a significant role in decreasing reliance on human labour and greatly improved productivity in many sectors of the economy in ancient and medieval cities, thereby, improved the daily lives of people since ancient times.

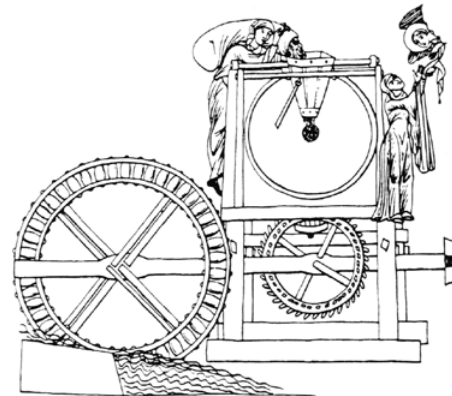
1.1 A BRIEF HISTORY OF WATERMILLS

Watermills were a significant technological invention and can tell us a great deal about the level of civilization of a society.

About the origin of watermills, one can find various references, which are based on old texts and translations as well as on archeological finds. Nevertheless, quite a few references do not have a solid factual basis and are only based on assumptions. According to the above mentioned references, the ancient Greeks and Romans had at their disposal several mechanical water-lifting devices and seemingly the first watermills were initially introduced in the Hellenic culture. Prior to the watermills, the rotating mills were used by Hellenes around 500 BC. With the transition from the rubbing stone to the rotating stone, the important change was made.³ In this version of the mill, water striking paddles drove the upper catillus stone with much greater power than had been available from animals and could therefore produce even greater amounts of flour.

In the old Greek inscriptions, the watermills and the people involved in their operation were described as *hydraleta/es*, which literally means water grinder. This word was also used and attested in the work "Geographika" by the Greek geographer Strabo published in the year 18 BC.⁴ This is probably the first

time that the existence of watermills was recorded in writing. The watermill mentioned in this work was built in Kabeira by Pontos and under the rule of King Mithridates VI. The enormous simplification of work that the invention of watermills brought with was also described in the work "Palatine Anthology" of the epigram poet Antipatros from Thessaloniki, who is assumed to have died around turn of the eras.⁵ The first mills mentioned in writings were most likely horizontal-wheeled mills. In about the same period of time, around 24 BC., the function watermills respectively waterwheels was also mentioned by the famous Roman architect and engineer Marcus Vitruvius Pollio in the 5th chapter of his work "De architectura libri decem". Under the title "The river scoop wheels, the watermills" he clearly describes the function of a vertical-wheeled watermill, ostensibly an under-shoot waterwheel.⁶



⁵ Schnelle 2012, p. 80

³ Schnelle 2012, p. 79

⁶ Schnelle 2012, p. 80

Fig. 4 The oldest pictorial representation of a mill from the "Hortus Deliciarum" which corresponds to the description of Vitruvius.

⁴ Germanidou 2016, p. 160

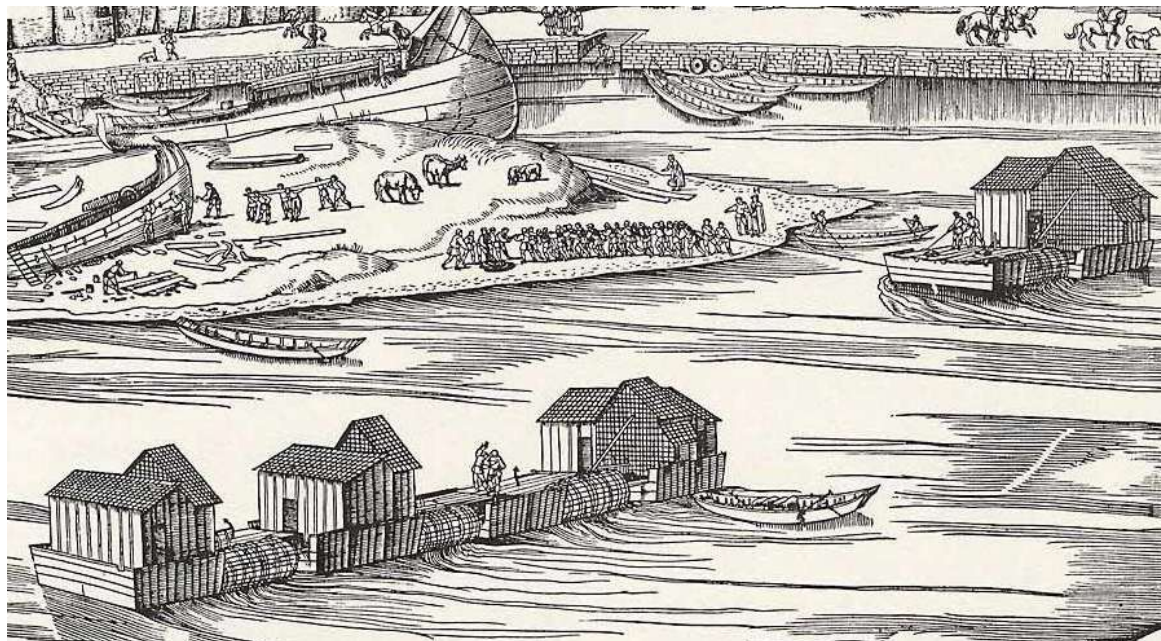


Fig. 5 Ship mills on the Rhine, detail from
"Ansicht von Köln" by Anton Woensam,
1531

Beside the key question when and where was the water mill invented it is also crucial to understand the historical relationship and transition between the horizontal watermill, that with a horizontal waterwheel, and the vertical water mill, that with a vertical waterwheel.

According to all writings and studies it is clear that Roman inventions about watermills were the most important ones. Their amazing engineering skills made a huge turn not only in the agriculture and grain grinding process, but above all played a crucial role in the beginning of the age of machines and technology. It is also believed that it was the Romans who during the

time of the Great Roman Empire spread the knowledge about the technology of water mills in Europe.⁷

The first watermills known so far in Europe were established on today's German territory, in the Limes region in Ettlingen/Ingolstadt and in the Rhineland. The remains of a watermill which was built around Christ's birth were found in 2009 on an old channel of the stream Indie. This was a clear indication that the Germanic population knew about the Roman technology of watermills.⁸ When the Franks conquered the Thuringian territories in the 6th century, they also brought with them the establishment of watermills as processing facilities. Under the

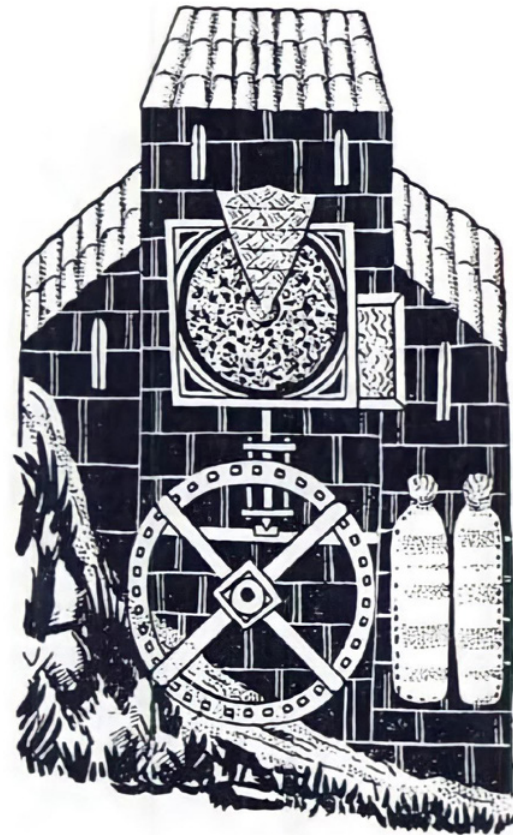
rule of Charlemagne, around the year 800, a comprehensive network of mills was built, particularly near the royal courts.

As for the technology of medieval mill systems, Monks also played a key role on spreading their knowledge they had about watermills and building techniques brought from western, technologically advanced areas. It is suggested that the Mills were the first building in any monastery complex. According to the religious Cistercians rules, in the 12th and 13th century more than 700 monasteries were founded on watercourses.⁹

By the time of the Domesday Book, in the late 11th Century, around 6000 watermills were in England only. The number of watermills had risen at around 15,000 mills by the beginning of the 14th century and by the end of 15th Century waterpower was the most important source of kinetic energy in Europe.¹⁰

By the early 20th Century, the electrification of hydropower and the industrial developments have led to the abandonment of watermills and waterwheels in developed countries, even though some smaller rural mills kept on working later throughout the century. In some developing countries, wa-

termills are still widely used for processing grain. Most of the traditional-style watermills in Kosovo kept on working until the end of 20th Century whereas today you can barely hear the sound of a waterwheel.



⁹ Rüdinger & Oppermann 2012, pp. 17-18

¹⁰ Langdon 2004, pp. 9-11

Fig. 6 Vertical undershot wheel from a Spanish reliquary of the late 13th century

¹ Rüdinger & Oppermann 2012,
pp. 19-35

² Donners, Waelkens & Deckers 2002,
52, p. 4

1.2 COMPONENTS OF A WATERMILL

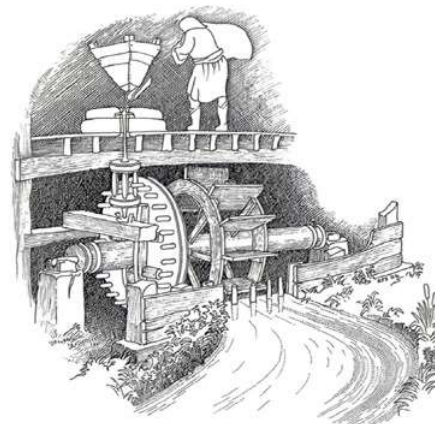
Water wheels are one of the oldest hydraulic machines known to mankind and the most essential part of a watermill. They have several important components that work together in order to produce power. Generally, wheels are made of wood or metal and on their outside rim there are mostly a number of blades or buckets arranged evenly around the wheel and form the driving surface. To produce power, the energy of flowing water, delivered via a channel called a mill race, pushes against the blades or buckets and rotates the wheel. This causes the axle to rotate and thus driving belts and gears that power and put in motion the machinery. Depending on the position of the water wheel, watermills from whatever period can be divided into two main categories: mills with a horizontal water wheel on a vertical

axle and mills with a vertical wheel on a horizontal axle. Vertical-wheeled mills use gearing equipment to connect the wheel with horizontally placed millstone, whereas the horizontal-wheeled mills are directly connected with the horizontal millstone. Depending on the height and approach of the water flow that makes the wheel to turn, vertical wheels can be subdivided into undershot, overshot, pitchback and breastshot mills.¹¹ The horizontal-wheeled mills can be either “ordinary” horizontal mills, helix-turbine mills or mills of the “drop tower” or arubah type.¹² Almost all the mills in Kosovo, which will be elaborated in the chapters below, fall within the category of the “ordinary” horizontal-wheeled mills. The only example of vertical-wheeled mill in Kosovo is the mill of Haxhi Zeka in Peja, which today is part of the Haxhi Zeka complex.



Fig. 7 (left) Horizontal mill, Norse Mill: reconstruction based on a post-medieval example

Fig. 8 (right) Fullerton Romano-British mill, reconstruction by Bob Spain. A simple form of undershot vertical wheeled mill







1.2.1 Vertical-wheeled watermills

The invention of the vertical waterwheel was a crucial turning point in the history of technology which in addition to having an extremely large impact on technology it also enabled the development of some industries that could not exist without the more potent energy which it provided. Except for grinding, vertical-waterwheel was used to a wide variety of tasks such as fulling cloth, sawing wood, shaping iron, boring pipes, crushing sugar, and pressing linseed oil.

Waterpower improved to be a central element in European societies during the medieval period and up to the beginning of the 19th century. Its development was not only of major importance to the industrial and technological output but also to the way society evolved, in particular the Western society.

Regarding the operation of the vertical-waterwheel it is important to note that it doesn't operate in isolation but it is a part of a more complicated power system, in comparison with horizontal-waterwheel. It is also displayed in a number of forms which slightly vary in efficiency, operation and design.¹³

The undershot waterwheel

The undershot waterwheel or the so-called “stream wheel”, designed by ancient Greeks and Romans, was the most frequently used waterwheel. What made it so popular is its simplicity in design and construction in addition to minimal construction costs. An undershot wheel is simply mounted above the mill race with the bottom of the wheel in the water and supported from above. It is driven counter clockwise by the speed of flowing water, which hits the buckets or blades on the lower part of the wheel and allows the rotation. They are particularly suitable for flat areas with no natural slope of the land and with sufficient water flow. In terms of efficiency, they have a very low efficiency of 32-38% in comparison to other vertical wheel designs. Their efficiency, however, can be slightly improved by special arrangements which help to divert a percentage off the water in the river along a narrow channel or duct so that the maximum of the diverted water can be used to drive the wheel.¹⁴ The faster the water flow, the faster the wheel will turn. In terms of design

Fig. 9 (previous page) The vertical waterwheel at Haxhi Zeka's Mill in Peja

¹⁴ Schnelle 2012, p. 117

¹³ https://www.engr.psu.edu/mtah/articles/vertical_waterwheel.htm (Retrieved November 04, 2020)

Fig. 10 (left) Schematic drawing of the undershot waterwheel

Fig. 11 (right) Schematic drawing of the breastshot waterwheel

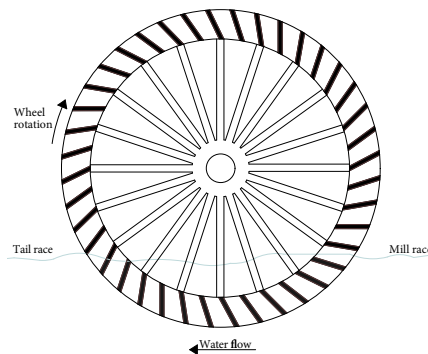
and construction there are different types of undershot waterwheel, but their in-depth elaboration is not seen as important for this research work. Undershot waterwheels were widely used in “Weinviertel” as a result of the suitable conditions for its operation. A special type of these kinds of wheels are also the floating mills, which operate on the same principles as prescribed above, but in different writings from various authors they can also be found classified as a separate typology of vertical-wheeled watermills. In this case, the wheel was mounted on floating platforms and the main advantage was the mobility they had. Since they were not attached to a fixed position, the miller could drive them to a better power point when the existent positioning and water level was not sufficient for operation.¹⁵ Until 19th century floating mills were built on all of the biggest rivers in Central Europe such as the Rhine, Main, Weser, Elbe, Oder, Mulde and Saale.¹⁶

¹⁷ Suppan 1995, p.77

¹⁵ Bodenstern & Hohenbühel 1985, p. 18

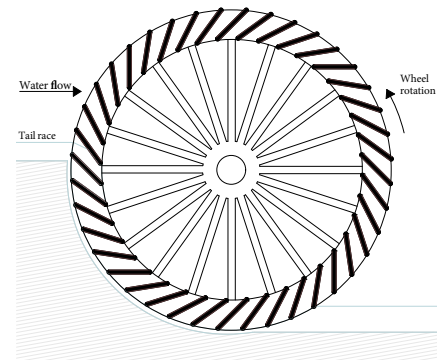
¹⁸ Rüdinger & Oppermann 2012, p. 33

¹⁶ Rüdinger & Oppermann 2012, p. 37



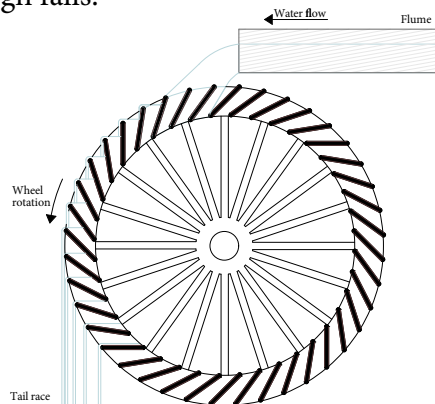
The breastshot waterwheel

The Breastshot Water Wheel is another type of vertically placed waterwheels where the water enters the bucket about half way up at axle height, or a little bit above it, and then ebbs out at the bottom in the direction of the wheels rotation. They are characterized by bucket wheels without side walls or with holes in the side which makes their ventilation possible and are carefully shaped to minimise vibration as water enters.¹⁷ The disadvantage of this type of design is an increase in the width and weight of the water being carried by each bucket. Breastshot wheels are less efficient than overshot and backshot wheels but they can handle high speed flow and therefore high power. With this construction an efficiency of 55-56% could be achieved.¹⁸



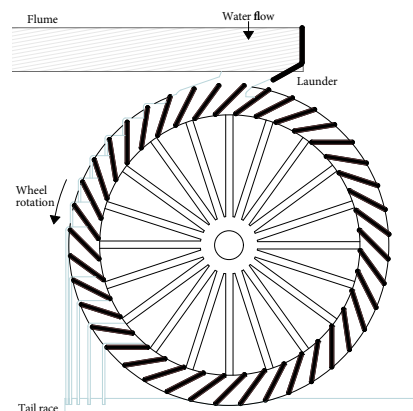
The overshot waterwheel

The overshot vertical wheel was a much more efficient solution; they could achieve efficiency up to 80%. Water enters into buckets or containers built into the wheel's outline from the top of it, and the weight of the collected water fills the wheel buckets and triggers a rotary movement due to the effect of gravity. Each and every bucket takes and dispenses the water into the water race at the bottom of the wheel and returns empty repeating the process. The water inlet speed should be greater than the circumferential speed of the wheel and thus a dam and an elevated head race were usually required to build up a large fall of water and to lead the water to the wheel's summit. It was suitable mainly to low water volumes and moderately high falls.¹⁹



The backshot waterwheel

The backshot wheel is a kind of overshot wheels with the main difference that the trough stops shorter here and the water pours onto the wheel just before the top of the wheel. In this case the wheel rotates in the same direction as the water in the race and therefore the water falls off at the same side as that on which it was received. Otherwise, the physical operating principle corresponds to that of the overshot wheel. In terms of efficiency, this could achieve a maximum of 75%.²⁰



²⁰ Reynolds 1979, pp. 281-283 & Rüdinger&Oppermann 2012, p. 32

¹⁹ Rüdinger & Oppermaann 2012, p. 31

Fig. 12 (left) Schematic drawing of the overshot waterwheel

Fig. 13 (right) Schematic drawing of the backshot waterwheel



1.2.2 Horizontal-wheeled watermills

Horizontal-wheeled watermills are very simple structures widely used from the first millennium in both Asia and Europe. Although their origin is uncertain, it is thought that they were first used by the ancient Greeks based on the writings of Antipater and Strabo in the 1st century BC.²¹ Frequently we can find them in writings as Greek Mills, Norse or Norman Mills, Clack Mills, Turkish Mills or Balkan Mills, names that are associated with the places where they have been mostly used and thus the subcategory they belonged to. The majority of the 62 watermills visited and documented around Kosovo seem to be horizontal-wheeled watermill, which makes the more in-depth explanation of this typology of a particular interest.

From the technical aspect of construction, their central element is the horizontally positioned waterwheel, which in most cases has a maximum diameter of one meter. The vertical shaft of the wheel is directly connected to the millstone placed above it and functions without the need of an intermediate gearing system. A channel or jet of water directed at the paddles on the wheel forces it to turn and consequently the speed of rotation of the wheel directly affects that of the millstone. The water supply to the wheel can

be easily interrupted at any time through swivelling channel. It needs a small volume of water but a high velocity to make the rotation happen and that's what makes it suitable for use in areas where there are steep slopes and low volumes of water. Still, in compare with vertical-wheeled watermills, horizontal watermills are generally regarded as inefficient and primitive. Their efficiency can hardly reach more than 30%. As for the materials, older wheels are made entirely of wood, while the new ones are often made of metal.²² In general, horizontal watermills can be subdivided into "ordinary" horizontal-wheeled mills, helix-turbine mills or drop tower mills – the so called arubah mills. This categorization depends on form of the wheel and water supply.²³ The horizontal-wheeled watermill, in its various forms, was undoubtedly the most widespread type of mill all around the Balkans.

Helix-turbine mills

The helix turbine mill is by far the oldest type for which there is archaeological evidence. The ancient horizontal-wheeled mills known by now are two triple helix-turbines in Tunisia, at Chemtou (late 3rd or early 4th century A.C.) and the presumably contemporary one at Testour. In this type of mill, the water wheel, which usually has curved

²¹ Breeze 2018, p.30 & Wagenbreth, Tschiersch & Düntzsch 1994, p.30

²² Rüdinger & Oppermann 2012, p. 40

²³ Donners, Waelkens & Deckers 2002, 52, p. 4

Fig. 14 (previous page) Wooden channel and horizontal waterwheel at Rexhep Shatri's Mill in Dragash

²⁴Wikander 2000, p. 377

²⁶Wikander 2000, pp. 376-377

²⁵Wilson 1995, pp. 501-509.

blades, is placed at the bottom of a cylindrical pit, filled with water, into which the flow channel enters tangentially, so that the rotating water column turns this mill into a real turbine.²⁴

The tangential approach of the water to the circular wheel shaft made the water swirls around as it fell on to the horizontal wheel. The rotating column of water acted with both weight and velocity upon the obliquely slanted wheel paddles, and the closely fitting stone shaft around the wheel prevented a major loss of energy and in turn creating a real water turbine. To guarantee sufficient flow throughout the year, this type of mill requires a fairly substantial stream or river, sometimes even a millpond. To use the water potential to its maximum, dams or mill channels are created to enable a difference in level.²⁵



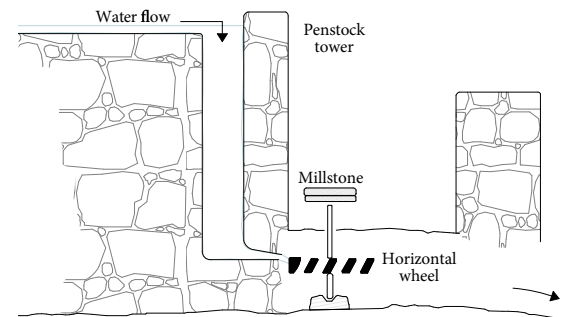
Fig. 15 (left) Roman helix turbine mill at Chemtou, Tunisia c.114 AD

Fig. 16 (right) Drawing of a mill with an arubah penstock

Drop-tower or arubah mills

The drop-tower mills or arubah penstock are ca. 6-10 m high towers made of stone found only after the Arab conquest in areas south or east of the Mediterranean. They have a cylindrical 'well' which functions as the end basin of a mill-stream and used as a reservoir to create a head of water, which enters at the top. In the tower, the water head energy is converted to velocity energy for the horizontal water wheel down by a column of water released under pressure at the bottom of the tower through a narrow nozzle with an adjustable opening. This variety of horizontal-wheeled mills generates the maximum power from small quantities of water and it is suitable for regions with scarce water resources.²⁶

From all the data collected and documented examples of mills in Kosovo there is no evidence that this typology may have existed in this country, although, based on the materials I managed to obtain, this typology was quite widespread in the Ottoman Empire.

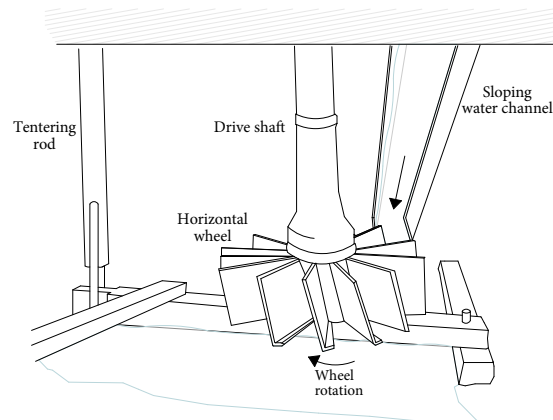


“Ordinary” horizontal-wheeled mills

The ordinary horizontal-wheeled mill, because of its operation, is best suited to mountain areas with streams, which have a relatively small flow but a steep gradient. It was earlier known as a ‘Greek’ or ‘Norse’ mill, despite the fact that the oldest example identified was located in Ireland and dated to ca. AD 630. Although, its precise chronological position in relation to both the helix-turbine mill and the drop tower mill cannot be established since its identifying elements which tended to be made of wood were less likely to survive.²⁷ Therefore, it may have been either an independent invention or a modification of the other types of horizontal-wheeled mills to adapt to certain terrains that meet the conditions for the construction of this type of mills.

In terms of operation, there are some specifications which make it different from other varieties of horizontal-wheeled mills. The wheel is not located in a wheel pit, but it is fed directly by water from a sloping channel or so called water chute which strikes the blades of the inclined wheels at an angle of about 30° to the vertical. In order to achieve the required effect, the drop should be about 3 meters directly near the water source and

thus the speed of the water is what plays the main role to set the wheel in motion and not its weight. Since the blades are not located inside an axle or a tube, a lot of energy is lost as water splashes on the sides of the wheel. As a result, the rotation of the millstones is not faster than that of the wheel itself, hence, the process of grinding is quite slow and the amount of corn that can be ground is rather small. Because of its ‘more primitive’ form of wheel, in older literature is sometimes identified as the oldest type of mill.²⁸ Because of its cheap construction and maintenance costs it is even assumed that it predominated throughout the Middle Ages²⁹ and it was the most prevalent form used in Balkans until the end of 20th century.



²⁸ White 1970, p. 446

²⁷ Wikander 2000, pp. 375-376 & Donners, Waelkens, Deckers 2002, 52, p. 14

²⁹ Hill 1984, p. 167

Fig. 17 Drawing of the main elements of an “ordinary” horizontal waterwheeled



1.3 THE MILLER

Milling is among the oldest of human occupations which emerged as a result of mankind's struggle for survival. The person who operates a mill in order to grind the foodstuffs, which are usually grains, is called the miller (Alb. Mullis). The place of millers in society was different throughout history and varied from place to place. This was closely related to the ownership of the mill, which in different societies, was regulated by diverse laws or rules.

Consequently, mills could be rural and owned by nobles, with the millers themselves being serfs, or in case when the mill wasn't owned by the miller, it was owned by the city. In some cases, the mill might be owned by a church or monastery. In Islamic societies, as it is with the Ottoman Empire, it was common for the mills to be built by the waqf (read: religious foundation applied in Ottoman Turkish law) and to operate under the rules laid down by the Emperor.

In general, in a traditional rural society, a miller is often wealthier than ordinary peasants. Millers were often accused of associating with thieves, and were targeted in bread riots at times of famine. Conversely,

millers might be in a stronger position vis-a-vis feudal land owners that are ordinary peasants.³⁰ However, milling was not an easy job and despite the ownership of the mills, a successful miller could be a business owner, engineer, scientist and a handyman. On the Weinviertel in Austria, during the 18th and 19th century, to become a master miller, you had to complete several years of training. At the beginning you worked for a master miller for three years and had to pay into the colliery. After that, you could apply to a master craftsman for the master's examination. If the servant leased a mill, he was already allowed to run it independently.³¹ Controversially, in the rural mills this profession was taught from generation to generation, as it happened in most cases in Kosovo. The mill building was also inherited from father to son or to the nearest family member. Millers were often paid by taking a portion of the finished product for their "toll". For instance, in the Ottoman Empire, under the rule of Suleiman the Magnificent, the mill was granted with the right to grind 1 bushel (approximately 32 kg) or 18 lucre for every, 20 bushels. The miller ground the store of grain in his own warehouse, sell the amount, which is more than his own con-

³⁰ <https://en.wikipedia.org/wiki/Miller>
(Retrieved March 20, 2021)

³¹ Otto J. Schröfl, *Mühlen im Wandel am Beispiel Pulkautal im Weinviertel*

Fig. 18 (previous page) Demë Sallaj, miller and owner of Sallaj's Mill in Junik

sumption needs, and used his earnings for his expenditures. Foreign trade of wheat and flour was completely under state monopoly. In Ottoman Empire, it was mandatory to own a land and get permission from the state to establish a mill. The distance between mills had to be minimum 600 ells or approximately 685 meters, and Mill owners were not allowed to create cartels in the sector.³²

In Kosovo, the mills could be owned by an individual, a family, a neighborhood or a whole village. It was not uncommon when there were a large number of shareholders i.e. owners. The payment for the grinding was usually done according to above mentioned rules. The owners often performed the role of miller, but in many cases that duty was practiced by paid millers. For this the master did not need any lessons and the mastery of the miller was passed down from generation to generation. Some data of the mill owners from the beginning of the 20th century can be found in the state archives in Kosovo, while older evidences respectively names of the mill owners from the beginning of the 16th century can also be found in the Istanbul Archives.

Our miller, Demë Sallaj, who is also the owner of the 100 year old mill in Junik, explains how he learned the milling mastery from his father, his father from his grandfa-

ther and so on. He speaks with compassion and longing for the time when he used to work as a miller. He points out that despite challenges and responsibilities, the job of a miller has been a much respected profession in our country. In conversation with him, he states that: “One has to work very carefully and must know some tricks. The trick is to get the stone turning at the right speed to achieve the desired result. The flow of water can vary over the day and over the year, and the millstone should be kept from turning too fast or too slow. If it turns too fast, the stones would overheat and ruins the grain. Too slow and production dropped.”

Beside this, weather seemed to have always been a challenge for millers. According to him, in addition to performing maintenance work of the grinding mechanism and other works within the mill, they also tended to be innovators in flood control. A drought could dry up the stream while floods, and particularly ice, could destroy the waterwheel. As a result they were obliged to create various kinds of dams and other protections around waterwheels.³³

They also traveled often around country to sharpen stones and in some cases went around villages to collect the grain and corn for grinding.

³² <https://www.magazinebbm.com/english/flour-and-bread-production-and-legislation-in-ottoman-empire-2/>
(Retrieved March 20, 2021)

³³ <https://mythicscribes.com/history/fantasy-writers-millers/>
(Retrieved March 22, 2021)

Many mills that had greater grinding capacity, mainly located in urban areas or in strategic and interesting locations, be owned by private individuals or certain communities, after the reconquest of Kosovo by the Kingdom of Serbs, Croats and Slovenes (1918), which was later known as Yugoslavia, were confiscated by the state and consequently it also resulted in a change of owners. This confiscation came as a result of the political process of the colonization of Kosovo and the Agrarian Reform (implemented mainly during 1918-1941), which was called in the name of “social equality” enabling the state authorities to confiscate private property in exchange for a compensation evaluated according to the laws in force that in many cases was considered to be un-

fair and privileged certain ethnic groups.³⁴ These reforms mostly affected the rich owners of land and real estates and the owners of mills, too. Such reforms directly affected the miller’s profession, be it when the miller was the owner himself or when the miller was simply an employee of Bey (title of nobility during the Ottoman rule, leader of a province or landowner, lower than Pasha) or Agai (landowner, smaller than bey; rich manor). Today, based on the information collected from the field research, the last generation of people whose primary profession was as a “miller” are now over 70 years old and only few of them are still alive. For various reasons, but the most important being insufficient financial benefit, the “miller” profession is almost in danger of extinction.

³⁴ Talk with Artan Kÿçyku, historian, April 4, 2021

GRABEN BEI BARE
1870



1.4 WATERMILLS IN THE BALKANS

Research dealing with the technological and architectural aspects of mills in the Balkans, including those in Kosovo, is unfortunately very limited and thus the lack of in-depth examination add up to the poor state of research. Therefore, writing about this topic is as much a challenge as it is a responsibility. What existed yesterday is slowly fading today, and without maintenance and documentation it may even disappear without a trace tomorrow.

The earliest documents mentioning the use of water power in Balkans respectively in Transylvanian Rumania date from the twelve century, however, the watermill had reached the Balkans somewhat earlier, presumably around 1000s. It is known that in 1098 the Crusaders burned several floating mills at Niš³⁵, in the territory of present-day Serbia, at that time part of the Byzantine Empire. The first record of the floating mills comes from the Gothic siege of Rome 536-37 A.D.³⁶ and from that time the tradition of boat-milling became a common sight on all over Europe and would remain in use up to 1900s. During the period of the Byzantine Empire up to the late Middle Ages it is established that a considerable number of boat mills were located in the watercourses of Slovakia, Croatia, Serbia, Bulgaria, Rumania and on Mur River that flows through

Slovenia. The last working authentic boat mills were found in Bosnia (1966), Romania (1968) and Serbia (1990).³⁷

The use of watermills in the context of Byzantine culture, not only as a skilled practice but also as an indicator of social and political progress is quite a vague subject. But on the other hand, the location of the watermill facility in the center of the Byzantine cities is a clear indicator that they were considered important components of the infrastructure signifying an early “proto-industrialization”.³⁸ In terms of functionality and architecture respectively space organization and materials used, those considered “typical” Balkan watermills and still present in the main part of the Balkans, have many similarities to mills in the area of Sagalassos which originate from the early Byzantine period, brought to light by K. Donners, M. Waelkens and J. Deckers.³⁹ In fact, in terms of size, typical Balkan mills built in rural areas are much smaller and have only one room, where the grinding mechanism is located. The larger ones are very similar to the aforementioned mills. This statement of mine is based on the aforementioned research on the Sagalassos watermills, the documentation of over 60 old watermills in Kosovo, the analysis of the old existing watermills in the Balkans and the research expedition of Louis C. Hunter in Southern Europe in 1967.

³⁷ <https://www.lowtechmagazine.com/2010/11/boat-mills-bridge-mills-and-hanging-mills.html> (Retrieved January 05, 2021)

³⁸ Germanidou 2014, p. 190

³⁵ Reynolds 1983, p. 51

³⁹ Donners, Waelkens & Deckers 2002, pp. 1-17.

³⁶ Reynolds 1983, p. 56

Fig. 19 (previous page) A snapshot of Qelë Bicaj Mill in Vrellë, Istog

Fig. 20 (left) Floor plan of the Bekir Onur Mill in Ağlasun, Sagalassos

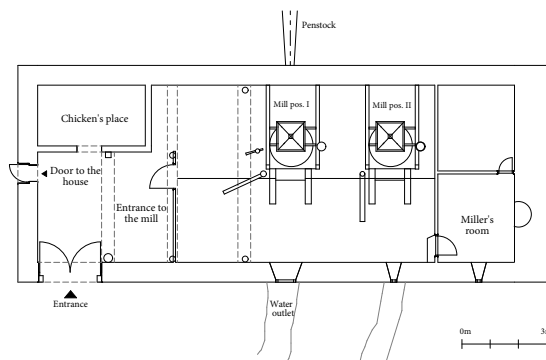
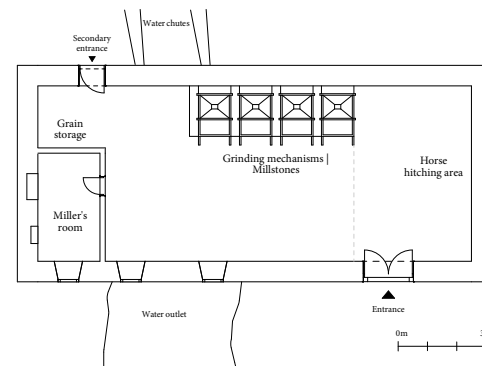


Fig. 21 (right) Floor plan of the Mill of Nika, Ferizaj, Kosovo



Yet, the importance of the mills seems to have remained the same even after the fall of the Byzantine Empire and the conquest by the Ottomans. The Ottoman Empire was characterized by an agrarian economy based on small family holdings which contributed with a substantial percentage of taxes for the empire. In this sense, water mills have also played a crucial role in the setting up of the capital.⁴⁰ The tax records dating back to the beginning of 14th century can be considered the earliest historical documents concerning the watermills, although, from the 8th century onwards, large scale milling installations, either state-sponsored or capital enterprises are known in the Islamic world. The milling technology in the Ottoman Empire, despite the intended importance, seems not that developed or competitive with that of the Western countries. Regarding this, Terry Scott Reynolds, the leading

technological historian of the watermill has claimed: *'if there was a single key element distinguishing western European technology from the technologies of Islam, Byzantium, India, or even China after around 1200 [CE], it was the West's extensive commitment to and use of water power.'*⁴¹

Based on written data and existent examples of watermills, it is evident that the watermilling technology established in the Balkans during the Ottoman period is more primitive compared to the one built or sponsored by the Austro-Hungarian Empire. The watermills built in Ottoman territory are mainly horizontal-wheeled mills characterized by small scale and purely utilitarian architecture. Conversely, the watermills built under the influence of Austrian Empire are mainly vertical-wheeled mills and with much to offer in the sense of architectural complexity and technology advancement.

⁴¹ Reynolds 1983, p. 5

⁴⁰ https://en.wikipedia.org/wiki/Economic_history_of_the_Ottoman_Empire
(Retrieved January 15, 2021)

Examples of such mills are still existent in Slovenia, Romania and some parts of Bulgaria.

In the Western world, the watermill served as a primary power supply until the 18th century when the machine age transformed rural and agrarian societies into industrialized and urban ones.⁴² Same cannot be said for the Balkans, even though the communist policies of that time were oriented towards industrialization. As concluded by Louis C. Hunter, in the Balkans of the mid 20th century the only power-driven machinery was the watermills. To my best knowledge, he provided the most accurate description of the technology and architecture of the watermills in Southern Europe. During his “informal” exploration in 1967, he gave a principal attention to portions in Rumania, Bulgaria and Yugoslavia and drew out some important conclusions, which may serve as good basis for this research. According to him, until that time thousands to tens of thousands of watermills were active in this part of Europe and the greatest number was gristmills followed by fulling mills, carding mills (Bulgaria) and lastly saw mills (Bulgaria and Rumania) were occasionally found. Many of these structures were no more than 6x6 (meters), except a small number, which had somewhat larger dimensions, and varied in materials and mode of con-

struction depending on the architecture of the region. In terms of operation, the most common type of watermill found was the horizontal-wheeled one with radial paddles or buckets.⁴³ In its various forms, the horizontal wheel is in many respects the most interesting and characteristic part of watermills in the Balkans. Although mechanically inefficient, their functional simplicity and effectiveness is a great example of a traditional technology passed down through generations. The watermills were owned in most cases by farmers, individually or jointly in groups⁴⁴. Until the 19th century in Slovenia, the owners of the mills were usually feudal landowners, i.e. the castle mills would primarily grind grain for the needs of the Lord. On the other hand, smaller craft and peasant mills would grind only for their own needs, and in the Littoral the owners of the mills were often townships⁴⁵.



⁴³ Hunter 1967, p. 446

⁴² <https://www.britannica.com/story/the-rise-of-the-machines-pros-and-cons-of-the-industrial-revolution> (Retrieved January 03, 2021)

⁴⁴ Hunter 1967, p. 446

⁴⁵ <https://www.total-slovenia-news.com/lifestyle/6553-cultural-heritage-of-slovenia-water-mills> (Retrieved January 28, 2021)

Fig. 22 A watermill on the stream in Makovište village, Serbia

termills, especially in the countries of the former Yugoslavia, proves once again that in this part of Europe not much effort has been made in increasing the efficiency of watermills or creating an architecture which can be more than utilitarian. However, the architectural aspect will be elaborated more thorough below. But one thing is for certain, as in every part of the world also in the Balkans, the watermills brought relief to people burdened with the never-ending labor of subsistence farming in what was mainly a pre-industrial economy.

⁴⁷ Sanders 1949, p. 240

To relate to this, we can find a very interesting portrayal of the mills revealed by the sociologist Irwin T. Sanders in the communist Balkans, respectively in Bulgaria after the Second World War. Referring to his book "Balkan Village", one can understand that in the time of so-called planned socialist economy the role of the mills was quite central and of particular importance for the farmers and peasants: *"Once in Sofia there were four possible destinations for the peasant wagon: The cattle market, the mill, the big curb market, or the Bezisten Pazar."*⁴⁶

⁴⁶ Sanders 1949, p. 103

Besides that, he also describes how the mills have also served as an important community hub and crossroads of communication where different topics of everyday life were discussed: *"The mill: A second place the peasant is likely to visit is the mill, not*

*far away from the general curb market... If they are tired out after their trip to the mill, the villagers lie down on sacks of grain until their turns come; if not sleepy, the peasants form talkative groups near their unyoked animals in the mill courtyard. But here again we find peasant talking with peasant, much of the conversation condemning the modern times, some government policy, or the sad effects of the World War. A talk with a conservative peasant from another village merely heightens the conservatism in the Dragalevtsy peasant."*⁴⁷

Such examples which one can read in different writings and novels testify how important the mills were for the people of these areas. In addition to sources of income for millers and owners, mills were also gathering places and they had a significant role in social life.

However, since the First World War, the number of operational mills begun to decline and the concession to industrialism in the communist era replaced many traditional style watermills with electrical ones, but still, as mentioned above, the transformation in Balkans was not that obvious and many rural and urban watermills continued to operate until the end of 20th century.

1.4.1 Architecture, space and building materials

Watermills remain as one of the most important segments of the vernacular architecture of the Balkans. Although, each of them is unique in itself because of the reliance on the use of typical local materials and knowledge of the popular craftsman, the traditional watermills in the Balkans, especially in the states of ex-Yugoslavia, have similarities in construction, forms and function. Of course, in addition to the above mentioned factors, the architecture of the mills in the Balkans has also developed as a result of several other factors that have a direct impact on the principles of watermill construction.

Architectural forms of the watermills in Balkans, no matter of what period, probably developed as a technical innovation in response to specific socio-economic conditions and under the influence of certain geographic factors. Unlike the residential buildings, whose spatial distribution was barely affected by geographic features, the proportional prevalence of watermills was a pure effect of it.⁴⁸ Therefore, both in urban and rural areas their constructive solution represents an architecture developed according to the needs and capacity of water courses. When located directly on the

stream, they are built where the current is not very strong, providing a stable source of energy to power the waterwheels. This is the main and most significant factor that dictates their location.⁴⁹ Beside this, their positioning in locations suitable for operation is a clear indicator that the builders intended to integrate the mills with their natural environments in the simplest way possible, without imposing on the environment or overcoming it. The special way of using natural resources so as to achieve the desired results testifies a way of creating an architecture that is above all sustainable. On the other hand, the architecture of watermills, in addition to being completely dependent on their function, is also devoid of any decoration and excessive detail in its entirety. Throughout the years, several watermill buildings often disappeared overnight, destroyed by floods or perished in the weather disasters, but their structure have remained the same and without major changes even after the reconstruction.⁵⁰ In most cases, they are rectangular structures with pitched roof and characterized by a single space that holds the wheels. The length of the structure depends on the number of the wheels or, when applied, on arches on which the mill rests above the stream. For instance, the watermills on the Radobolja, Trebižat, Bregava and Buna in Bosnia and Herzegovina have

⁴⁹ Kuzović 2018, p. 36

⁵⁰ Kolar-Dimitrijević & Wagner 2007, p. 84

⁴⁸ Sanders 1949, p. 240

⁵³ <https://www.dreamstime.com/water-mills-krka-river-belong-to-system-pre-industrial-plants-bear-witness-to-traditional-way-life-image114069701>
(Retrieved December 28, 2020)

⁵¹ <https://www.expoaus.org/al/mullinjte-e-ujit-uso11>
(Retrieved December 17, 2020)

⁵² <https://www.expoaus.org/al/mullinjte-e-ujit-uso11>
(Retrieved December 17, 2020)

larger dimensions than the most typical Balkan mills and with a number of wheels from six to eleven. Mills with larger dimensions, in addition to the room where the grinding mechanisms are placed, also have a special storage room for grain and flour, and a separate room for the miller.⁵¹

Though they are usually conceived as one-story structures, in many cases, they look like two-story ones, where the upper one is supported by the lower one. Albeit, two-story watermills are characteristic of the Dukagjini Plateau in Kosovo and also several such mills are located on the Třebižat River in Ljubuski, Bosnia⁵² and the Gornja kuća (Upper House) in Skradinski buk, Croatia.⁵³ In all cases, the upper floor is foreseen to be used as a temporary residence.

Regardless of the region where they are located, the main materials used to build the mill buildings are stones, wood and clay mortar. Initially, the roofs have had a wood skeleton and were lined with stone slabs or wooden shingles, which later may have been replaced by tiles or galvanized sheet metal. The number of flat-roofed mills is almost negligible and the very few that exist date back to the the 15th century, build under the rule of Ottoman Empire.

As mentioned above, the Balkan watermills are mostly horizontal-wheeled mills, with some small exceptions. As a result of influences from the West, the vertical-wheeled mills are most likely to be found in Slovenia, Romania, Bulgaria and occasionally in Croatia and Bosnia. However, in whatever form, the waterwheel, grinding mechanism and water channel were originally entirely made of wood and later some parts were replaced by metal ones.

The number of mills in the Balkans is relatively large and even though their architecture is entirely function-based and the similarities are obvious, certain architectural elements still differ quite a lot from region to region as a matter of the above mentioned socio-economic impacts, geographical factors and builder's creativity. A proper analysis of each one is beyond the scope and purpose of this research, therefore, the focus lies in some of the most characteristic mills and forms of construction in Bosnia and Herzegovina, Croatia, Albania and Serbia.

Based on their position in relation to the water flow, I have grouped them into three categories: watermills on the stream, watermills next to the stream, watermills afar from the stream and watermills on the river bed.

Watermills on the stream: Watermills of Jajce, Bosnia and Herzegovina

Watermills of this category can either be single buildings, positioned in long strings, or in compact groups at the original locations. They are usually one-room structures, providing space for a grinding mechanism, an area for miller and space for sacks (grain and flour). Regardless of the materials used and construction techniques, their structure consists of a pedestal, a corpus and a roof. One of the most interesting examples of this category are the watermills of Jajce in Bosnia and Herzegovina.

Dating back to the Middle Ages, the watermills of Jajce demonstrate the

historical architecture style and carpentry techniques of the region.⁵⁴ They are located near the city center on the Pliva River between the Great and Small Pliva Lakes and currently there are nineteen watermills, which no longer serve their original purpose – grinding, but they are part of the unique panorama of the lakes. According to data from 1562, there were a total of 24 mills in Jajce at that time and as early as the 17th century the number rose to 26.

The small windowless huts rest on wooden pillars, thus raising the main space where the grinding mechanism is located on the pedestal and creating space for the waterwheel to operate.



⁵⁴ <https://www.visitjajce.com/index.php/en/heritage/pliva-lakes>
(Retrieved January 8, 2021)

Fig. 23 Watermills of Jajce, Bosnia and Herzegovina

Fig. 24 A hand drawing section of an old mill structure in Slunj, Croatia

<http://www.balkanarchitecture.org/bosnia/jajce4.php>
(Retrieved December 14, 2020)

<http://www.balkanarchitecture.org/croatia/slunj5.php>
(Retrieved December 14, 2020)

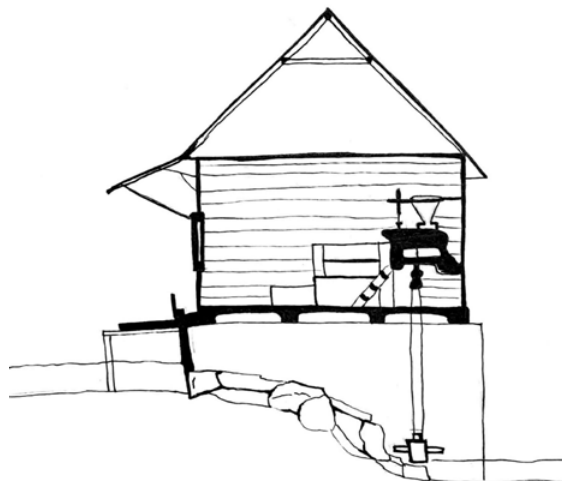
⁵⁷ <https://tov.rs/eng/taor-waterfall/>
(Retrieved December 14, 2020)

⁵⁸ Krasniqi 2017, p. 88

The wooden frames of the buildings are in-filled with oak plank walls or interlocking plank walls and have roofs covered with wooden shingles.⁵⁵ Without decorations and superficial details, the builder subordinated their appearance to their function and natural surroundings.

At the Pliva Lake site, horizontal water wheels are powered by water directed from the chutes. The wheels are connected with vertical wooden poles to the grindstones in the millhouse above.

Most of the mills built on water flows in the Balkans are built according to the same principles. Other similar examples to the mills in Jajce are the old watermills of Slunj in Croatia⁵⁶ and those of the Taor Spring in Serbia.⁵⁷



Watermills next to the water stream: Tabakhane Mill, Prizren, Kosovo

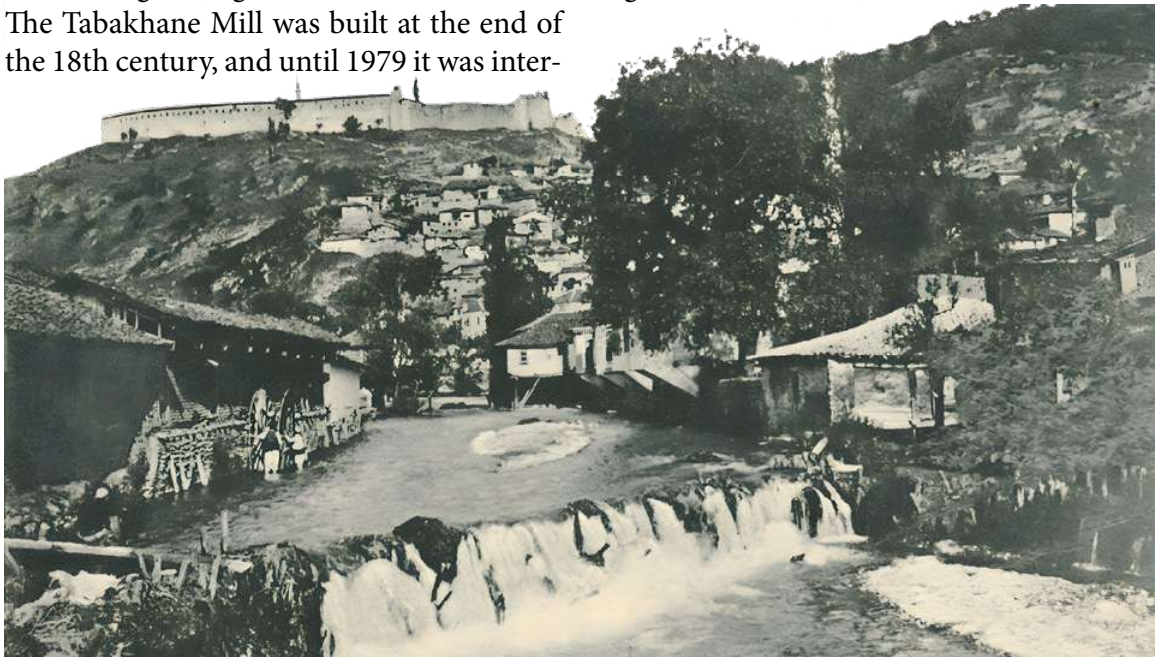
This is an extensively large and widely widespread category of the watermills in the Balkans. Due to their positioning vis-à-vis the stream, they have a larger array of constructive solutions. These watermills can be quite large by volume and number of rooms. Often this category of watermills can be a single room building though it is not rare that, apart from the space where grinding mechanisms are placed, there is an additional living room for the miller and a special storage room for grain and flour. Also, the construction materials varies a lot, depending on where they are built, and a few materials cannot be taken as an example.

So, more precisely, the mills of this category are mills located directly near the stream - rivers, streams or mountain springs, where only a small diversion through a dam orients the water in the valley of the mill.

The many mills that were once located along the course of Lumbardhi River in Prizren, are a typical example of this mill's category. According to the old residents of Prizren, as well as researchers Jusuf Xhibo or Muhamet Shukriu, there were about 15 mills around Lumbardhi River as early as 1896, which operated using the water of this river.⁵⁸ To divert the water or collect it for the needs

of the mills, successive diversions or dams were created with wooden poles and shrubs. However, most of them stopped working since the second half of the 20th century and today the only operational mill is the Tabakhane mill. The mill got this name because it is located in the Tabakhana district or within the complex of “Tabakëve” (Eng.: Tanner, Leatherworker) where leather was processed through all its phases.⁵⁹ Although, according to the aforementioned researchers, this mill did not have any great architectural value compared to the former mills of Lumbardhi, it had all the important elements that a traditional mill of the Balkans can have; there was a place for horses, a place for nonmilled and milled grains, the miller’s room and of course the main space where the grinding mechanism was located. The Tabakhane Mill was built at the end of the 18th century, and until 1979 it was inter-

vened several times in order to save it from decaying. However, after the floods of this year, the building was badly damaged and only a part of its northern wall remained⁶⁰. After this disaster, the owners rebuilt the mill with the same dimensions as before but using completely different materials from the authentic ones. This affected the architectural value of the building, but however this mill is still a place where grain is milled in a traditional way and has important spiritual value for the residents of Prizren. Inside this rectangular and relatively low building there are two grinding stones, but currently only one is functional and it still moves around the axis with the help of water that comes from the Lumbardhi River through the dam created hundreds of years ago.



⁶⁰ Krasniqi 2017, p. 88

⁵⁹ https://www.youtube.com/watch?v=-FamrUjphz_Y
(Retrieved April 20, 2023)

Fig. 25 (left) Watermills along the Lumbardh River in Prizren, postcard from 1909

Fig. 26-27 (right) Tabakhane Mill , Prizren , Kosovo



Watermills afar from the water stream: Watermill of Ndërlyhaj, Theth, Albania

This is an extensively large and widely widespread category of the watermills in the Balkans. This mills category refers to the mills where the water line from the water source is oriented towards the mill until it reaches a dam built by stones or any other material. From there, it enters the mill chute, which is a sloping channel that feeds the waterwheel and puts the grinding stones in motion. Since mills of this category are usually located in plain areas, the possibilities for architectural design are also greater. However, as in the categories mentioned above, the used materials and their architecture depend entirely on the vernacular architecture of the place where they are built. They can be con-

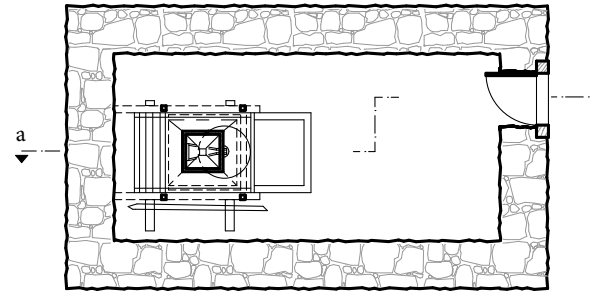
ceived as one-storey or two-storey buildings, and the division of spaces depends entirely on the size of the mill. In most cases, they are a single space where the grinding mechanism is placed in the centre of it; however, there are many cases when there are other auxiliary rooms. The Mill of Ndërlyhaj in Theth, is a typical example of mills located afar from the water stream. What makes it even more special are the authentic materials used for the construction of the mill building, but also the construction of the dam which is built by using typical materials and traditional methods. The water that passes through this dam comes from a water line (Alb.: Vada) that has its starting point from the Shala River, which springs at the top of Theth village. Not so long ago, there were many water mills in this village,



Fig. 28 The dam built by stones and the mill building, Watermill of Ndërlyhaj, Theth, Albania

but nowadays only a few have remained⁶¹. The current building of this mill is a reconstruction of the mill built in the 19th century. It was restored in 2008 by USAID and has preserved its authentic appearance even after the restoration.⁶² From the architectural point of view, it is a one-storey building with relatively small dimensions. There is only one room where the grinding mechanism is located. The mill has massive stone walls and a roof made of pine planks. The used stones are natural raw stones, except in the corners of the building where hewn stones are placed. The roof has a relatively large slope and covers about 1/2 of the facade. The door is also made of wood frames and leaf, while the small window placed close to the grinding mechanism has stone frames and wooden shutters. The construction materials have been selected to adapt to climatic conditions, but as everywhere in the past, due to the impossibility of transporting materials from a distance and the cost they could have, they were taken from the surroundings. As with the mills, the same construction materials and techniques have been used for the other categories of buildings in Theth, but always adapting to the size / volume of the respective buildings. The mill is still in operation and its grinding capacity goes up to 300 kg per day.⁶³

⁶¹ Shkreli & GO2 Albania 2018, p. 153



⁶² Shkreli & GO2 Albania 2018, p. 154

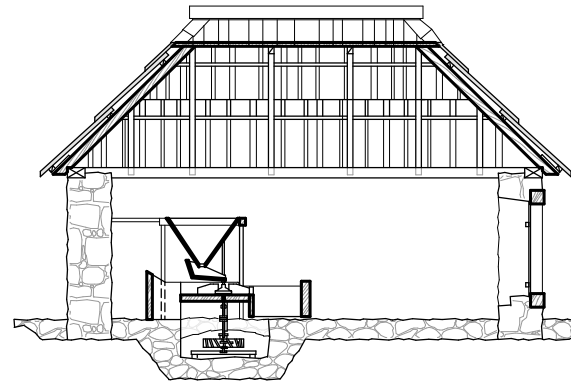


Fig. 29 Floor plan and section of Watermill of Ndërlysjaj, Theth, Albania

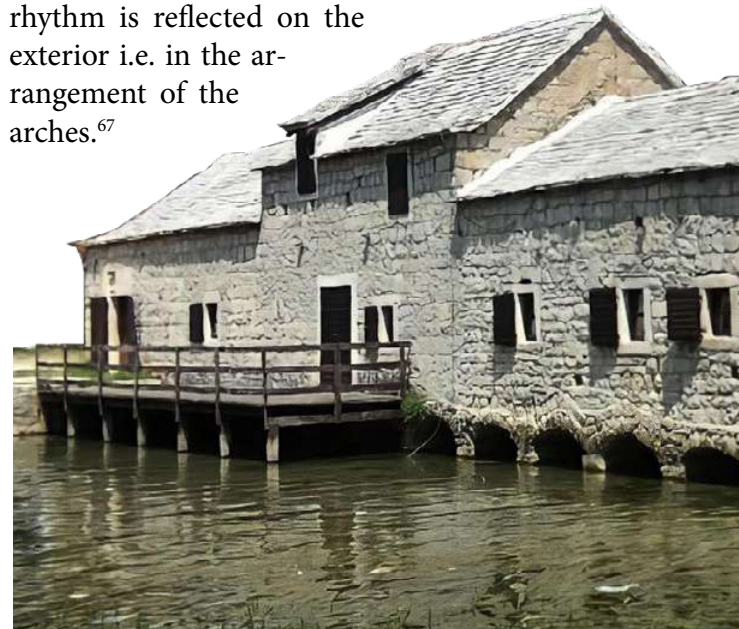
⁶³ Shkreli & GO2 Albania 2018, p. 154

Mills on the river bed: Gašpina Mlinica, Croatia

Mills of this category are usually single-story structures, located in urban areas and built over larger river banks. Even though they are one-story buildings, their setting, dictated by the operation of waterwheel, gives them the appearance of two-story structures, with the upper story carried by the arches of the ground floor. Due to their location and the possibility of destruction by floods they are usually entirely built of stone. Most watermills which belong to this category in Balkans don't have major differences in their structural system. In addition to the Gašpina mill, which is described more in-depth below, similar examples can be found on the rivers Mostar, Radobolja, Stolac, Blagaj and Ljubuški in Bosnia.⁶⁴

The watermill "Gašpina mlinica" is the only preserved mill on the Jadro River in Croatia. From the year 1711, when it is first mentioned, Gaspina mill was modified and extended several times, which is evident from the subsequently created windows on the façade.⁶⁵ Its structure is much more complex than of the rural mills, therefore the popular craftsman must have been well acquainted with the construction of these structures. The structure consists of a set of four interconnected one-story buildings

with gable roofs made of wooden structure and covered with stone plates. The building has a north-south orientation and the water was directed through the channels from the east, free-falling to the lower parts of the mill. The doors and windows are mainly oriented to the west.⁶⁶ Although the architecture of mills lacks of decoration, in this case an ancient stone stele with figures of a man and women was placed above the main entrance. The inside of the mill contains the static stone parts of the grinding mechanism which were connected and set in motion by circular movement of the horizontal waterwheel. The wheels are not set in same distances in all buildings and this rhythm is reflected on the exterior i.e. in the arrangement of the arches.⁶⁷



⁶⁶ Buble 2009, pp. 98-99

⁶⁴ <https://www.expoaus.org/bosnia-and-herzegovina-uso11> (Retrieved January 18, 2021)

⁶⁷ <http://solin-info.com/en/znamenitosti/solin-danas/gaspina-mlinica> (Retrieved January 8, 2021)

⁶⁵ Buble 2009, p. 98

The oldest part of this complex is the southern one, while the middle one was rebuilt on higher ground after being destroyed by the river flooding in 1885.

Due to the length of the buildings, the division of interior spaces is also more interesting. In all four buildings there are a total of fifteen grinding stones separated in this way: three millstones in the first building, four in the second, five in the third and three in the fourth. In the first house was a space with a chimney, foreseen as the miller's kitchen while for those who

came by river, on that part of the building was a donkey barn where the animals could be tied during the waiting time. Moreover, the attic of each building could be used as a space for sleeping and rest. "Gašpina mlinica" would continue to grind grain until the 1960s. The mills are made of masonry stone and have the interior walls plastered with finely smoothed lime mortar.⁶⁸

⁶⁸ <http://solin-info.com/en/znamenitosti/solin-danas/gaspina-mlinica>
(Retrieved January 8, 2021)

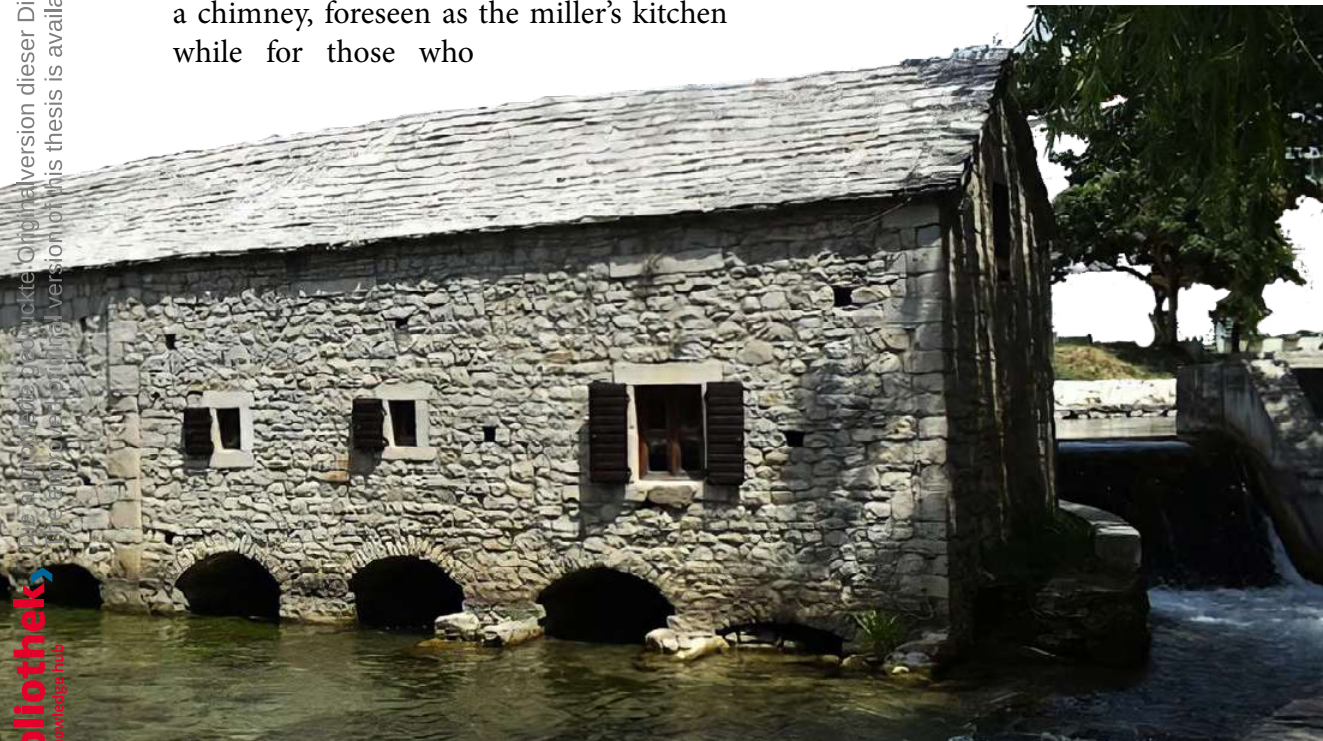


Fig. 30 Front facade of Gašpina Mlinica, Croatia

2 | KOSOVO: GEOGRAPHY, HISTORY AND ARCHITECTURE



150 km



2.1 LANDSCAPE AND TOPOGRAPHY

Kosovo is located in the center of the Balkan Peninsula in Southeast Europe and defined in an area of 10,887 square kilometers. It borders the countries of Montenegro to the west, Serbia to the north and east, North Macedonia to the southeast and Albania to the southwest. Most of Kosovo's borders are dominated by mountainous and high terrain. The most dramatic of these is the range of Sharr Mountains which runs eastwards out of the mountain complex of northern Albania and forms much of Kosovo's southern borders. They surround one-tenth of Kosovo's territory and its highest peaks are over 2,500 meters, some of them crowned with permanent snow. On the western side of Kosovo, running northwards from the Albanian massif into Montenegro, is another range, the 'Accursed Mountains' (Alb.: Bjeshkët e Nemura), which are a geological continuation of the Dinaric Alps. This range is characterized by very steep and inaccessible terrain, rivers that divide the high cliffs into two parts and lakes with a striking beauty. The borders of Kosovo stretches (moving clockwise) along another mountain range until at their northernmost extension, they cross the massif of the Kopaonik range, which pushes down into Kosovo from the highlands of central Serbia.⁶⁹ This range is characterized by its min-

eral wealth, especially abundant by lead and zinc, making it one of the richest regions in Europe.⁷⁰ On the eastern side of Kosovo the circuit of mountains dwindle, with a string of summits which are half as high as those of the south and west, until we come back, in the south-eastern corner of Kosovo, to the easternmost extension of the Sharr Mountains – a range of hills known as the Skopska Crna Gora (Alb.: Karadak, from the Turkish for 'Black Mountains').⁷¹

Within these mountains and hills, lies the interior terrain of Kosovo with its lowlands and valleys, 350 meters or more above sea level. From the north to the south and through the center of Kosovo lie a series of hills that divide the entire territory of Kosovo into two more or less equal halves. The two halves have their own traditional names, which due to political and geographical reasons have been sources of both controversy and confusion. The western part is known as the 'Dukagjin plateau' (Alb.: Rrafshi i Dukagjinit) while the eastern half is known as 'Kosovo Field' (Alb.: Fusha e Kosovës).⁷² The favourable geographical position made Kosovo one of the main global crossroads of different cultures and peoples, both from East and West. It has been spiritually enriched by the cultures of both sides, but at the same time, has also been endangered by their opposing interests.

⁷⁰ <https://www.ballikombetar.info/shalla-e-bajgores-ne-veshtrimin-historik/> (Retrieved September 17, 2022)

⁷¹ Malcolm 2011, p. 36

Fig. 31 (page 47) An old tree nearby the Mill of Islam Zeneli, Pagarushë, Malisheva

Fig. 32 (previous page) Kosovo map and its position in Balkan Peninsula

⁷² Malcolm 2011, p. 36

⁶⁹ Malcolm 2011, pp. 35-37



2.2 HYDROGRAPHY

Kosovo is a landlocked country with several long and short rivers, as well as artificial and natural lakes within its borders. Its near-central position in this region can be better understood from the fact that most of the rivers flow out of Kosovo into each of the three coastlines of the Balkans: the Aegean, the Black Sea and the Adriatic. The drainage basin of the Black Sea comprises 50.7 percent of the territory of the country and it is the largest in the country, 43.5 percent of the country's territory is encompassed by the drainage basin of the Adriatic Sea while the rest, 5.8 percent, belongs to the Aegean Sea drainage basin. Before being distributed in these three seas, the hydrography of Kosovo watercourses is divided into four river basins: Lepenac (Aegean Sea basin), Ibar (Black Sea basin), Morava e Binçës (Black Sea basin), Drini i Bardhë (Adriatic basin).⁷³

The Lepenac, springs out on the northern slopes of the Sharr Mountains, south of Kosovo, and flows through the gorge of Kaçanik in the direction of Macedonia where it joins the river of Vardar on its way to the Greek coast. The Ibar, springs in the

eastern Montenegro and runs northwards through the eastern half of Kosovo to flow into the West Morava, central Serbia, which then joins Danube near Belgrade. The longest river in the country, Drini i Bardhë, runs westwards through the mountainous territory of northern Albania and enters the Adriatic a little way past the city of Shkodra.⁷⁴ Nerodime River is of particular importance because it represents Europe's only instance of a river bifurcation flowing into two seas, the Black and Aegean Sea. The bifurcation of the river is considered to be an artificial phenomenon, but created under extremely favorable natural conditions.⁷⁵ Kosovo has a relatively small number of natural lakes and some surface water accumulation, known as artificial lakes. The natural lakes are mainly located in the mountain ranges and at different altitudes. Amongst the most beautiful scenic lakes are the Gjeravica, Leqinat, Jazhincë, and Zemra Lake. The main artificial lakes are Gazivoda Lake in the north-western part, Radoniq Lake in the south-western part, Batlava and Badovc Lake in the north-eastern part. Kosovo also does have a large number of karst springs, thermal and mineral water springs.⁷⁶

Fig. 33 (previous page) Hydrographic map of Kosovo

⁷⁴ Malcolm 2011, p. 36

⁷⁵ Strategy for Local Economic Development 2005-2007, Ferizaj Municipality 2005, p. 8

⁷³ Ministry of Environment and Spatial Planning, Kosovo Environmental Protection Agency 2010, p. 31

⁷⁶ Ministry of Environment and Spatial Planning, Kosovo Environmental Protection Agency 2010, p. 16

2.3 A BRIEF HISTORY UNTIL 14TH CENTURY

⁷⁸ Shukriu 2008, p.5

Areas inhabited today by Albanians, including Kosovo, are thought to have started to be populated very early, even since the Palaeolithic era. In ancient times, this territory was known as Illyria and its population were the Illyrians or the descendants of the Pelasgians and the ancestors of today's Albanians. Regarding this matter, there are many historians, archaeologists and researchers who think alike, however, there are others who are sceptical of this conclusion yet.

Geographically, Illyria was positioned in a border region between civilized Hellenistic society and barbarian tribes and consisted of different tribes. The earliest recorded of Illyrian Kingdom was that of Enche-la in the 8th century BC.⁷³ The territory of today's Kosovo and a part of the sur-

rounding areas was known as Dardania and was inhabited by the Illyrian tribe of Dardanians, an identity that was preserved until the Byzantine period.⁷⁸

Based on historical sources, the Dardanian Kingdom had existed since the 4th century BC until it was conquered by the Roman Empire in the 1st century BC. In the development of ancient Dardanian history, along with other factors mentioned below, an important role played the Dardanian protourban development until the 4th century. The main urban centres of the kingdom before the conquest were Damastion, Nis, Skopje and Ulpiana. After the Roman conquest, the Roman province of Dardania had several large cities and properties, but still it was not completely Romanized, and this is evidenced by the presence of many fortresses and watchtowers.⁷⁹ Various references also prove that, after the Roman conquest, the Dardanian population was mainly engaged in livestock and livestock production. Dardan cheese was one of the popular products of that time and widely exported⁸⁰. Furthermore, Dardania was known for its gold resources, as various writings describe the Dardanians as quality producers of jewellery and weapons, well-known woodcarvers, and producers of decorative ceramics.⁸¹ Ceramics are thought to have come as a Hellenic influence in Dardania, however, ar-

Fig. 34 Goddess on the Throne, a terracotta figurine found at the site of the Tjerrtorja spinning mill in Prishtina

⁷⁹ Malcolm 2011, p.81

⁸⁰ Malcolm 2011, p.81

⁷⁷ Malcolm 2011, p.81

⁸¹ Jubani 1985, pp. 213-214



chaeological research shows that over time the processing of ceramics has advanced to the point that through the elements used and the localities where they are found, regional differences between them have been identified.⁸²

In the 4th century AD, after the Huns caused the mass movement of peoples or what is known as the “barbarian invasion”, large groups of people flocked to the Roman Empire and was a factor in the weakening of the Empire. During this time, Dardania became a safe haven for the preservation of Illyrian culture and language as well as the heritage of the Romanized population, remaining part of the Eastern Roman Empire or the Byzantine Empire. Due to the lack of factual sources, unfortunately, very little is known about the way of life in Kosovo during the early centuries of the Byzantine Empire.⁸³ However, it is known that Christianity spread in the early years of Roman occupation continued during the Byzantine occupation, where after the division of the churches into the Roman Catholic Church and the Orthodox Catholic Church, Albanians maintained ties with the former.⁸⁴

In 850, Dardania was conquered by the Bulgarian Empire, the Bulgarian Khans or Tsars, and this conquest lasted until the 11th century when it returned to the Byzantines for several years. The re-Byzantinization of the

region was accompanied by social changes that had to do with the creation of Byzantine feudal property or “pronoia”. These changes harmed the free peasant communities by turning them into bondsmen and turning the villages into large properties that functioned on the basis of feudal military conditions. Practically, these properties later became hereditary and thus contributed to the strengthening of the Latifundist aristocracy. The system of properties found in the territory of Kosovo was also adapted by the Serbian rule later.⁸⁵

During these centuries of Byzantine rule, taking advantage of the political situation and the weakening of the Byzantine Empire, the Raska rulers, the ancestors of the Serbs, led by Stefan Nemanja, managed to expand their territory and initially occupy some parts of Kosovo (1185-1195) until 1216 when they managed to rule the entire territory of Kosovo. After the formation of the Serbian Empire in 1346, Kosovo played a very important geographical role – because of the trade routes that connected parts of the empire and reached the coast, and economically – because of the mines and ore



⁸² Shukriu 1996, pp. 7-13

⁸⁵ Malcolm 2011, p. 84

⁸³ Malcolm 2011, p. 82

⁸⁴ Malcolm 2011, pp. 82-83

Fig. 35 Portrait of Gjerj Kastrioti Skanderbeg painted by Cristofano dell'Altissimo

⁸⁶ Malcolm 2011, p. 92

⁸⁹ <https://www.britannica.com/event/Battle-of-Kosovo-Balkans-1448>
(Retrieved April 9, 2022)

⁸⁷ Qendra e Enciklopedisë Shqiptare,
Qosja 1999, pp. 79-89

⁸⁸ Bajraktari, Instituti i Historisë (Akademia e Shkencave e Shqipërisë),
Instituti i Historisë-Prishtinë 1996,
p. 42

wealth that provided the empire with most of wealth. The construction or usurpation of churches and monasteries during the rule of the Nemanjids within Kosovo begins only later with the construction of the Patriarchate of Peja and the founding of Gracanica in the 14th century, the construction of the Monastery of Deçan and that of St. Archangel in Prizren⁸⁶. As for the way of life in Kosovo during this time, in addition to the application of “pronoia system”, society under the rule of the Nemanjids was divided into two levels and corresponded to the peasants and knights of Western Europe. Social divisions were defined in Tsar Dushan’s Penal Code⁸⁷, during whose rule the pressure on the Albanian population had reached its peak by then⁸⁸.

After the so-called Battle of Kosovo (1389), the Ottoman army was rapidly permeating the Balkans. This was once again prevented by Gjergj Kastrioti - Skenderbeu in another battle called the Second Battle of Kosovo (1448). After several years of attempts, the Ottomans finally took full control of the territory of Kosovo in 1455 and ruled in these lands until the beginning of the 20th century⁸⁹. The long period of Ottoman rule was accompanied by a radical change in political, economic and social developments, thus leaving deep traces in the cultural, architectural and spiritual heritage of the peoples of these areas.

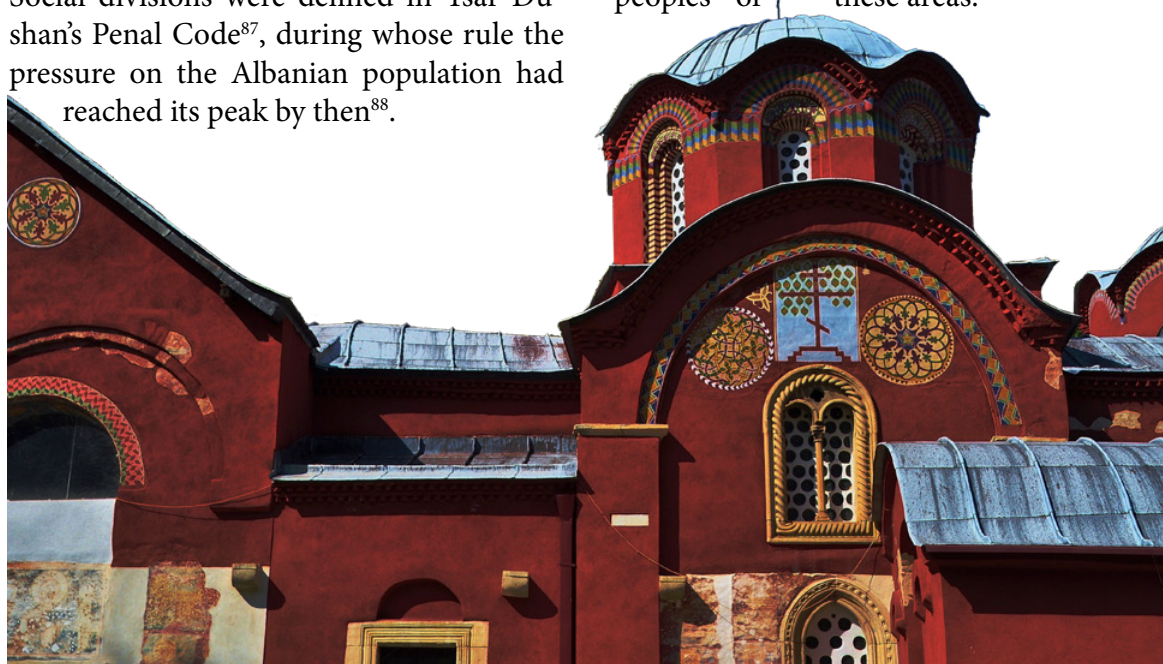


Fig. 36 The Patriarchate of Peja,
a medieval Orthodox monastery
near Peja

2.4 THE OTTOMAN RULE

The conquest of Kosovo and other parts of the Balkans was of course a great achievement for the Ottoman Empire, bringing economic benefits to the Empire and strengthening its political relations with others. Until it fell under Ottoman rule, Kosovo was invaded several times and despite the fact that the indigenous people resisted the changes, still each war and each invader left marks on the structure and social life of the population, as well as on the architecture shaping the country. However, for the Albanians, the Ottoman rule was the longest period they were under others' rule, and of course for almost 500 years the country experienced a different development which was mainly influenced by the east. The biggest difference of the Ottoman Empire with Western European countries does not necessarily mean that it was Islam. In fact, some fundamental characteristics of the empire were not related to religion but to war⁹⁰.

The early years of the Ottoman rule in Kosovo and throughout the Balkans are often portrayed as a period of massive and violent conversion to Islam and oppression of the population living in these areas, but this turns out to be inaccurate. The Ottoman Empire used various policies which in one form or another encouraged or even

imposed a change of religion, mainly by privileging Christian and Orthodox citizens who agreed to convert to Islam. According to statistics in Kosovo, the first to embrace Islam were the Albanian nobility and people that lived in urban areas and, starting from the 17th century, Kosovars regardless of their place of residence converted en masse to Islam⁹¹. The Ottoman state had the main interest in finding men for war and money to pay them. Consequently, state control existed only for the sake of war and not the other way around. The basic division of the population was into two classes: those who took part in the war – askeri – and those who had monetary obligations to the war/empire – reaya⁹².

Most of the rural population in Kosovo who before the Ottoman occupation had worked on some kind of feudal property continued to do so also after the occupation, apparently this time with slightly better conditions. In the first centuries of the Ottoman rule, the basic tax paid by the peasant was 1/10 of production, and in addition to this there were additional annual ispençe taxes – paid by Christian peasants, and resm – paid by Muslims. In addition to these taxes, there were also some small feudal taxes that had to be paid from the sale and purchase of goods.⁹³

Kosovo was known for its crop production

⁹¹ Nezirli 2020, p. 181

⁹² Shaw 2006, p. 129,138,139

⁹⁰ Malcolm 2011, p. 144

⁹³ Malcolm 2011, p. 150

⁹⁶ Caroline Jaeger-Klein, Zoom Lecture, ICOMOS, December 09, 2021

⁹⁷ Ahmeti 2018, pp. 73-75

⁹⁴ Malcolm 2011, p. 154-155

⁹⁸ Clayer 2013, p. 80

⁹⁵ Malcolm 2011, p. 192-194

and very often, especially during the 16th century, Kosovo produced surplus grain, and this enabled the villagers to sell it directly in the bazaar. In addition to standard cereals, saffron and silkworms were also produced in Kosovo. Livestock and beekeeping were also highly developed. The Ottoman system required peasants to remain close to their land, and there was even a fine on income when they left the land, mostly lured to become craftsmen in nearby towns. However, by the middle of the 16th century the population of Kosovar cities increased by about 70% and cities like Prizren and Vuçitërna became important economic, commercial and administrative centres. During this time, there were about 55 different trades in Kosovo and, as a result, by the end of the 16th century a formal system of guilds of craftsmen known as 'esnafe' was developed.⁹⁴ Esnafe were powerful institutions that through the control mechanisms they had at their disposal played an important role in the internal politics of cities. Civic life in Kosovo developed at a rapid pace almost until the end of the 17th century. The only cities that decreased in terms of population in this period were the cities that depended on mining, which for very complex reasons fell and lost their importance for the empire.⁹⁵ In the Middle Ages, Novobërda was considered the most

developed city in the Balkans and the silver coins produced there contributed to a rapid economic growth of the region.⁹⁶

From the political-administrative point of view, the expansion of the Ottoman Empire until the 15th century made it necessary to change its state organization in order to achieve the centralization of power in the hands of the sultan. This was achieved during the reign of Sultan Suleiman II in the 16th century. The territories of the whole empire were divided into 32 eyalets (smaller administrative units) and Kosovo was part of the Eyalet of Rumelia. The eyalets were divided into even smaller units called sanjaks and the division of Kosovo from the 15th to the 18th century was done mainly between three sanjaks: the Sanjak of Vuçitërna, the Sanjak of Prizren and the Sanjak of Shkodra.⁹⁷ This division functioned until 1864 when, according to the Tanzimat Reforms, the empire was now divided into vilayets and the territory of present-day Kosovo for a short period was called the Vilayet of Prizren and from 1877, including some areas around present-day Kosovo, it was renamed the Vilayet of Kosovo.⁹⁸

However, the many events that took place within the empire, the constant wars, the raising of taxes that had to be paid by the Albanian Christian population and the other disadvantages they had due to religion

or ethnicity, brought many dissatisfactions to them. These dissatisfactions began to appear greater especially at the end of the 19th century when the Albanians felt threatened by the fragmentation of the lands inhabited by Albanians between the newly formed kingdoms of the Balkans.⁹⁹ In order to create an autonomous Albanian state in Kosovo, organizations of the national movement

were created, such as the League of Prizren and later the League of Peja. However, the struggle and uprising of Albanians for independence and recognition of their rights lasted until 1912 when delegates from all Albanian areas declared Albania independent and thus recognizing Kosovo as part of the Albanian territorial integrity.¹⁰⁰

⁹⁹ Enti i historisë së Kosovës 1972, pp. 9-17

¹⁰⁰ Jacques 1998, pp. 357-359



Fig. 37 Vilayet of Kosovo within Ottoman Empire from 1881 to 1912

Fig. 38 The archaeological park of Ulpiana, Lipjan



Fig. 39 Fortress of Novobërdë, Novobërdë



Fig. 40 St. Peter's Church or the Saxon Church, Stan Terg, Mitrovica



¹⁰¹ Jaeger-Klein 2018, p.3

2.5 ARCHITECTURAL HERITAGE AND INFLUENCES UNTIL 20th CENTURY

The territory of Kosovo for thousands of years, as a result of being invaded several times, has been the place of a number of different civilizations and beliefs, the cross-roads of trade routes and political interests, the movement and settlement of different peoples, whose impact has undoubtedly played an important role in creating an interesting architectural mosaic and a rich cultural heritage. Unfortunately, the change of invaders, the unstable political past and the destructive military operations have significantly damaged the spiritual and material values of this country. Nevertheless, in Kosovo there is still a considerable number of buildings and structures of value for the cultural heritage of the country, built hundreds of years ago and shaped by various influences coming from both the west and the east. In addition, Albanians as indigenous population in the areas where they live, have their own way of life which both culturally and religiously differs from the population of neighbouring countries and has influenced the formation of an architecture created beyond foreign influences and methods.¹⁰¹

Among the oldest structures in Kosovo is the Fortress of Novobërdë which is thought

to have existed since prehistoric times, respectively from the 3rd and 4th century BC. This fortress is of the fortified type and has had a protective role at all times.¹⁰² It is built on the top of Novobërdë (Artana), on a hill full of silver – which has influenced it to be invaded several times by Bulgarians, Serbs and Ottomans. All three of these invaders left traces of their conquests which are still reflected today in the castle stones. These invasions also had their effect, especially the last one being the Serbs. During the Serbian occupation, the castle took on the condition it has today and even in many writings, as a result of the reconstruction done during this period, it is treated as a Medieval Castle and not older.¹⁰³ Remains of similar fortifications and watchtowers dating back to antiquity are also found in other parts of Kosovo.

As described in the chapters above, the Roman conquest, as in all other provinces included in the various Roman provinces and in Kosovo, has left a large number of traces of Roman culture. During this period, Dardania underwent changes in both economic and cultural life, creating cities, castles, villages, villa rustica, cult objects, as well as a network of antiquity roads built on the previous routes of the Dardanian Kingdom.¹⁰⁴ Among the most important and well-researched cities is Ulpiana which is

thought to be the first city in this area. However, archaeological findings prove that Ulpiana was built on prehistoric layers of an earlier Dardanian settlement and in the early Byzantine period was rebuilt by Emperor Justinian I. Another ancient city explored is the Municipum DD near Mitrovica.¹⁰⁵

In terms of Byzantine architecture in Kosovo, and in the Balkans in general, the expressive Byzantine style was a complex amalgam of Western and Eastern cultural influences that reflected the cultural and architectural traditions of different peoples and tribes. Byzantine architecture in the Balkans is mostly expressed in the official architecture of the state and religious institutions. Next to them there were also buildings of popular masses which were more modest in volume and without artistic effect.¹⁰⁶ Residential and service buildings, village temples, fountains, wells and other structures used in daily life and work were found throughout the Balkans, reflecting the vernacular architecture of these peoples. Built of much weaker and less durable materials than the buildings of the ruling class, state and religious authorities, these structures did not last long.¹⁰⁷

Medieval structures, mainly cult monuments, built after the occupation of Kosovo by the Serbs had strong elements of Byzantine-Romanesque architecture. The Patriarchate of the Monastery of Peja, the Mon-

¹⁰² Caroline Jaeger-Klein, Zoom Lecture, ICOMOS, December 09, 2021

¹⁰⁵ Dobruna-Salih 1982, pp. 197-198

¹⁰³ https://web.archive.org/web/20191029044514/https://dtk.rks-gov.net/tkk_objekti.aspx?id=8712
(Retrieved November 12, 2020)

¹⁰⁶ Oliver 1997, p. 1483

¹⁰⁷ Oliver 1997, p. 1483

¹⁰⁴ https://balkancultureheritage.com/find/Arkitektura_n%C3%AB_Illiri/931
(Retrieved May 3, 2022)
& https://www.mkrs-ks.org/repository/docs/shqip_final.pdf
(Retrieved May 3, 2022)

Fig. 41 Monastery of Gračanica,
Serbian Orthodox monastery,
Gračanica



<https://whc.unesco.org/en/list/724/documents/>
(Retrieved May 10, 2022)

Fig. 42 Church of the Virgin of Ljevisa,
Orthodox church, Prizren



Fig. 43 A fraction of interior of Monas-
tery of Deçan, Serbian Orthodox Chris-
tian monastery, Deçan



astery of Gračanica and the Church of the Virgin of Ljevisa, built mainly in the 13th and 14th centuries, as well as the Monastery of Deçan, reflect the highest points of the special Byzantine-Romanesque ecclesiastical culture that developed in the Balkans in the 13th century of the Nemanja Dynasty. Churches contain important manifestations of the Palaiologos Renaissance style of mural painting.¹⁰⁸

Being part of the Ottoman Empire for about five centuries, Kosovo has inherited many examples of the architecture of the Ottoman Empire. It includes mosques and hamams built in the 15th, 16th and 17th centuries, then a number of bridges, urban centres, shopping streets and fortresses built in the 18th and 19th centuries. Part of this heritage are also some everyday buildings that are not considered important in their own, but taken all together, they are of considerable interest. This group also includes the buildings of watermills, which have not been sufficiently studied and analysed. This is probably not because they have not been in the interest of the peoples, but the importance that the empire has attached to these buildings is barely comparable to other categories of buildings. The most representative examples of Islamic architecture in Kosovo are considered to be mosques, whose art is of high artistic, cultural and historical pro-

portions. Taken as a whole, mosques built in Kosovo during the Ottoman rule, by some Turkish scholars (Zeynep Ahunbay), are considered to be of particular importance as most belong to the Early Ottoman and Classical Ottoman styles.¹¹⁰ But, on the other hand, Albanian scholars think that Islamic architecture in Kosovo, including that of mosques, has more traditional elements and as such is distinct from other examples of the Empire.¹¹¹

In terms of Kosovo's cultural heritage, important are also Kosovar town houses, which appear in the 18th century and Albanian traditional tower houses – Kulla as a special typology and representation of Albanian architecture in the Balkans. Town houses are comfortable residences representing the Ottoman style of life, where the national attribute is clearly overlooked to reflect the incorporation of their residents into Ottoman political and administrative life.¹¹² Unlike town houses and as a special typology –

Kulla represents a residential building with defence features, usually built in rural areas, with some exceptions in the city of Peja and Gjakova where they are located within the urban area.¹¹³ Towers are the most representative structures of Kosovar vernacular architecture, and their construction materials vary depending on the location found. All the towers are masonry-carpentry structures built by popular Albanian craftsmen who were known for the quality and manner of work. Some scholars even assume that the autochthonous tower houses of the Dukagjini Plain have evolving roots since antiquity and prehistory.¹¹⁴ However, the traces preserved by the vernacular architecture of a more distant past consist mainly of foundations and very little superstructures. Consequently, this does not allow scientifically proven theses on the genesis and evolution of vernacular architecture over the centuries to be traced with sufficient certainty to be decisively confirmed.¹¹⁵

¹¹³ Riza 2006, p. 5

¹¹⁰ CHWB Kosovo Office 2007, p. 15-25

¹¹¹ Drançolli 2004, pp. 44-59

¹¹⁴ Doli 2009, p. 20

¹¹² Jaeger-Klein 2018, p. 4

¹¹⁵ Oliver 1997, p. 1483

Fig. 44 (up-left) The dome of Sinan Pasha Mosque, Prizren



Fig. 45 (up-right) Terzi Bridge near Gjakova, late 15th century example of Ottoman architecture



Fig. 46 (middle-left) Gazi Ali Bey Hamam, public bath built in the late 14th century, Vushtrri



Fig. 47 (middle-right) Shops in the Old Bazaar in Gjakova, considered the oldest Bazaar in Kosovo



Fig. 48 (down-left) A part of the interior at Ethnological Museum at Emin Gjiku Complex, Prishtina



Fig. 49 (down-right) Part of the front facade of Adem Aga Gjoni's house, Prizren





2.6 KOSOVO DURING YUGOSLAVIAN TIMES

¹¹⁸ Ec Ma Ndryshe 2020, pp. 5-6

After World War II, Kosovo remained part of the territory of Yugoslavia. The construction of a new imposing identity, in addition to the changes it brought to the social life of the Kosovo population, especially the Albanian majority, also influenced the general urban and architectural formation of the country. It was built but also destroyed a lot in the name of modernity, progress and the appropriation of elements influenced by neighbouring Yugoslavian countries.

¹¹⁹ Ec Ma Ndryshe 2020, pp. 5-6

The Byzantine, and especially the Ottoman period in Kosovo, marked a dominant influence on the architectural and spatial shaping of the country. However, since the first decades of Yugoslav rule, an institutionalized contempt was shown against the urban and architectural works inherited from these periods, including works of Albanian vernacular architecture.¹¹⁶ The communist authorities, who devised and implemented plans for the transformation of the country, intended to change the appearance of the settlements that were considered to have elements related to the Ottoman period on the grounds that such elements were inadequate for the time.¹¹⁷ Beginning in the late 1940s, the transformation of urban centres, which until then had retained their medi-

¹¹⁶ Herscher 2000, pp. 109-110

¹²⁰ Kajtazi 2016, pp. 11-12

¹¹⁷ Herscher 2010, pp. 28-29

eval structure, began to occur dramatically¹¹⁸. The strengthening of the labour force by the opening of factories, the possibility of employment in education and various administrative positions also resulted in the increase of the population in the cities. At the same time, in addition to the construction of the quasi-modern city centres, a large number of public buildings were built and new tourist centres and spots were developed. All of these undoubtedly represent an important turning point in terms of shaping a new reality in Kosovo, that of a new public and modern life.¹¹⁹

The dynamic changes lasted almost until the end of the 80s, giving Kosovo a considerable number of the country's iconic works and radically influencing the overall urban and architectural shape. However, this contribution to development and progress had two ideological sides: one was the raising of Kosovo to the same position as the other Yugoslav states and the other was the destruction of traditional architecture aiming at the loss of identity through a relatively imposed architecture.¹²⁰ This idea is further reinforced by the fact that the list of monuments included in the protection by the Institute for the Protection of Cultural Monuments of Kosovo, until shortly before the Kosovo war, included very few monuments belonging to the Ottoman period and

traditional architecture compared to Orthodox monuments.¹²¹ However, the most difficult period for Albanians began with Tito's death in 1980 and reached its peak in the time of Slobodan Milosevic. Several years before the Kosovo war, the plan to destroy archives, cultural and state collections, Islamic Community records and similar documents had already begun. During the war, massive destruction of archive buildings and other state buildings, mosques, muse-



ums and libraries, Islamic libraries, Muslim schools, tekkes and Catholic religious sites began as part of the Serbian campaign of ethnic cleansing.¹²² Albanian towers, as the most representative buildings of vernacular architecture, have been the target of destruction by Serb-Yugoslav soldiers. In the Dukagjini region alone, at least 500 towers were attacked and most of them were completely destroyed, burned or damaged.¹²³



¹²¹ Herscher & Riedlmayer 2000, pp. 110-111

¹²² Riedlmayer 2007, p. 124 & Herscher 2010, p. 11

¹²³ Limani 2016, p. 3

Fig. 50 (up-left) The National Library of Kosovo, Prishtina

Fig. 51 (up-right) Palace of Youth and Sports, formerly known as "Boro and Ramiz", Prishtina

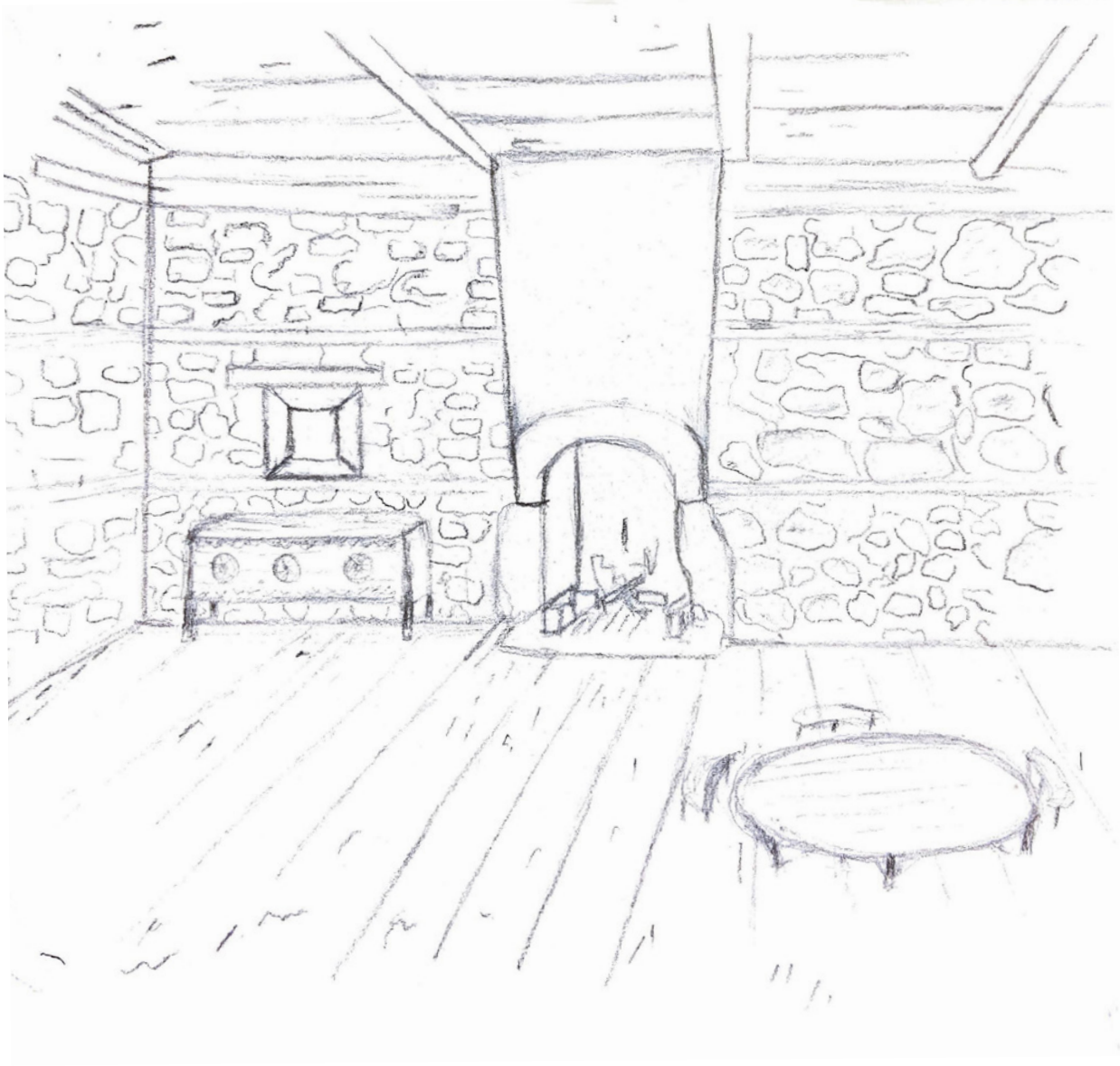
Fig. 52 (down-right) Monument of Brotherhood and Unity, Prishtina

Fig. 53 (down-right) Hotel Narcis, a communist-era hotel, Brezovica

3| **BUKË, KRIPË DHE ZEMËR**

Mikut do t'i bahet nderë: Bukë, kripë dhe zemër (Gjeçovi 1989: 131)

The friend will be honored: Bread, salt and heart (Gjeçov 1989: 131)



¹²⁶ <https://tradita.org/2020/01/19/etnos-simbolika-e-bukes-ne-traditatie-shqiptareve-nder-shekuj/>
(Retrieved May 19, 2022)

¹²⁷ <http://bota-bujqesore.blogspot.com/2019/10/buka-ushqimi-bazik-i-shqiptareve.html>
(Retrieved May 19, 2022)

¹²⁴ Gondek & Szczek 2018, p.97

¹²⁸ Allen & Gjipali 2014, pp. 112-114

¹²⁹ Malcolm 2011, p. 154-155

¹²⁵ Gondek & Szczek 2018, p.98

3.1 BREAD AND TRADITION

Bread, such an ordinary food item, but of existential importance to humanity and without which civilization would not exist in the way we know it today. Being a symbol of culture, history, hunger, wealth, war and peace, bread gave order to our way of life and created the structure of modern society. For Albanians, this symbolic importance is even more distinct. It is a point of reference for their identity, since generosity and hospitality, as the main characteristics proudly held along generations, have been reflected with the phrase “Bukë e krypë e zemër”. This idiom, apart from the Albanian hospitality, also shows the poverty that had prevailed in earlier periods of time among Albanians, when bread and salt were the only food that some families had to survive. However, as mentioned in the Kanun of Lekë Dukagjini, this too must be shared with the guest and that – with an open heart.¹²⁴

As has happened with other cultures, bread, from the pre-Illyrian period to the Albanians of today, became a representative meal in terms of nutrition and organization for its production. In Albanian society, even today, bread is conceived as a meal. For example, “ha bukë (eat bread)” is used as an expression for “having a meal”.¹²⁵ In a way, this shows how important and sacred it has been and continues to be in the Albani-

an “sofra”. Prayers were always said before eating bread, it was used as an oath to tell the truth, just as the Gospel, the Qur’an, and other objects of pagan and monotheistic sanctity were used.¹²⁶ The most common vows were: “I swear by the bread we eat! (Alb.: betohem për bukën që hamë“ and “for the sake of bread and salt! (Alb.: Për bukët e për krypët!)”. Albanian tradition says that bread should not be abused, played with, thrown away, or worse, trampled or cursed, because “it was a sin against God.” Bread scraps were used as food for livestock, or poultry. No crumbs should be misused.¹²⁷ This respect and appreciation inherited from generation to generation, was ingrained in the conscience of every individual because bread was vital, provided with much difficulty, sacrifice and hardship. Archaeological findings from the Neolithic period show the importance and use of cereals in the Albanian territories, consequently bread.¹²⁸ There are also written notices about cereals by Greek and Roman authors, while the writings and cadastral registers from the Middle Ages show the massiveness of the planting of cereals and the presence of water mills.¹²⁹ This is also reflected in the architecture of the houses built during the Ottoman period where each had its own bread oven for family needs. Among Albanians, breads have always had

a round shape, in the shape of a pan, and never in a rectangular shape. Traditionally, bread was baked from flour obtained from the grinding of cereals, which after being soaked in water was kneaded by hand, and in some cases decorations with symbolic meanings were made on it. Once it was given the shape, the bread was baked on the fire of the hearth (Alb.: *vatra*), in a warm clay pan (Alb.: *çerep*) covered with ashes or in a deep clay pan covered with a heated *saç*. Of course, the symbolism of bread is basically related to the tools of bread production, the grains and the tools and utensils with which the grains are made and the soil that makes them. Field, wheat, corn, mill, mill water, flour, bread oven and hearth, granaries and cribs, flour sieve, “*çerep*”, fire, etc. are some elements that are related to this process but that in the symbolic sense can sometimes express different material or ritual meanings.¹³⁰ All these take a special place in Albanian mythology.

In terms of annual (Alb.: *motmot*) celebrations and rites as part of the folk’s religion, as a rich tradition of spiritual heritage,

*“Dallëndyshe, dallëndyshe,
Na kët’ veróre të kuqe,
Të na shpiesh anës detit,
Të na sjellësh bukë shëndetit^{133!}”*

bread has always been an important part of the ritual ceremony.¹³¹ The most important prayers, often in the form of songs, were directed for the fertility of the land, the sowing and the harvest, for the grain that was the source for providing a mouthful of bread.

In addition to the early pagan holidays, ritual breads were part of the wishes for prosperity, health and luck in the Christian and Islamic holidays. Ritual bread and “*kulaç* (a small boule-like bread)” took a very important symbolic place in the three most culminating cases of human life: birth, marriage and death.¹³²

However, although these sacred traditions today belong to the past, they tell a lot about a people where ethnoculture has played an important role in the social organization and strengthening of ethnic unity from antiquity until today. In addition, the symbolism of bread continues to be closely associated with various human virtues such as: right, truth, faith, honour, manhood, hospitality and charity. Whilst, the symbolic name of the eating process has been and continues to be *buka*.

*“Swallow, swallow,
Take this red string,
To send it across the sea,
To bring us healthy bread^{133!}”*

¹³¹ Xhemaj 2005, pp. 115-131

¹³² Xhemaj 2005, pp. 115-131

¹³⁰ <https://tradita.org/2020/01/19/etnos-simbolika-e-bukes-ne-traditat-e-shqiptareve-nder-shekuj/> (Retrieved May 19, 2022)

¹³³ <https://tradita.org/2020/01/19/etnos-simbolika-e-bukes-ne-traditat-e-shqiptareve-nder-shekuj/> (Retrieved May 19, 2022)

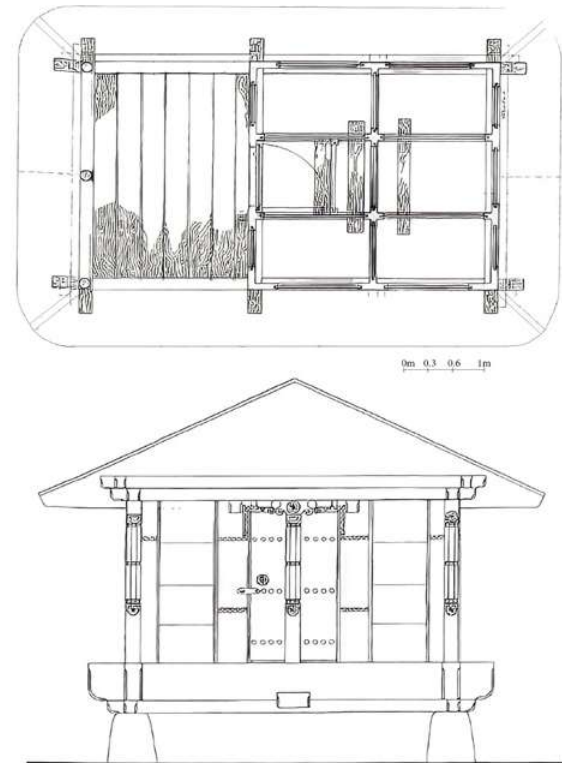
Explication: Rite to bring the atmospheric precipitation necessary for cereals and therefore to have enough bread

3.2 GRANARIES AND CORN CRIBS/ SHEDS AS AUTOCHTHONOUS ARCHI- TECTURAL CONSTRUCTIONS

Granaries and corn cribs are considered as construction units that have preserved their construction form since prehistoric times. Although conceived as secondary spaces in the complex of residential architecture, due to the symbolism, morphology of the building, motifs and ornaments that they bring up, they evoke quite a representative part of the autochthonous Albanian architecture and the work of the Albanian folk craftsman. Located mainly in rural areas, their primary function was to store cereals and flour, hence bread. Due to the importance of 'bread' among Albanians, which was elaborated in the previous chapter, the construction of the granaries and the corn crib initially had a religious or sacred character.¹³⁴

According to F. Doli, an expert on Albanian vernacular architecture, the structural composition of the granary coincides with that of prehistoric temples. Made of wood, as it is considered that it was originally the construction of prehistoric temples, they are creations of the popular Albanian craftsmen who have preserved their work philosophy for generations. Although there may be several types of granaries, in principle

their construction structure is the same. Their spatial structure consists of two volumes – the closed one, which has a central positioned entrance gate, and the open one or the so called “hajaj” (Eng.: porch). The closed volume is divided into 6 spaces: in a central corridor and 5 other spaces that serve to store the grain.

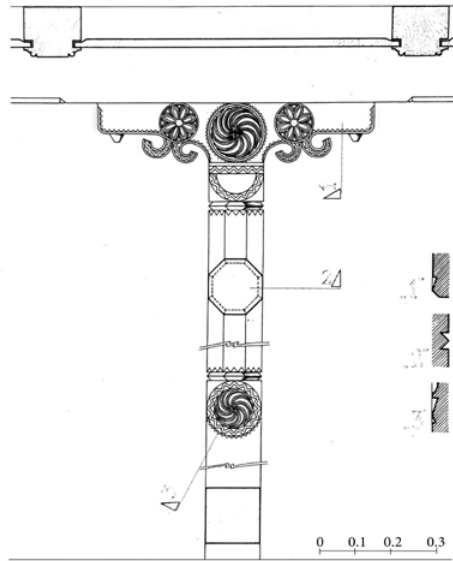


¹³⁴ Doli 2009, pp. 238-239

Fig. 54
Floor plan and front facade of Dulah
Krasniqi granary in Goshticë, Prishtina
by F. Doli

they are creations of the popular Albanian craftsmen who have preserved their work philosophy for generations. Although there may be several types of granaries, in principle

As main structural elements placed in the facades of these buildings are colonnades and architraves supported by colonnades, whose columns have many similarities with the classical ones. The columns rest on the structure of double horizontal high beams that form a pedestal-shaped base. The pillars, as important elements in the structure of the granary, are conceptualized of 3 compositional parts: the lower prismatic part, the connecting structural element or the horizontal inverted morpheme, and the six-sided prismatic part. The upper prismatic part represents the “capital” of the column. In the case of the middle column, the capital is replaced by the bolster. Both,



the lower prismatic part and the upper part, have cultic ornaments chiselled on them.¹³⁵

Concerning corn crib, as a spatial and constructive structure, it is supposed that it has the same features as the Neolithic huts. Its architectural composition is a representation of its structural concept, its minimalism and simplicity is clearly reflected in its constructive system. In this sense, every architectural element is related to a function.¹³⁶

Corn cribs built in Kosovo are usually rectangular in shape and their structural composition consists of columns, that are arranged in the basis of a modular system, of the horizontal beams, which divide the wall into 3 horizontal spaces/fields, and the small doors that serve to empty the crib.

Nevertheless, without losing its constructive structural concept, over time the corn crib has developed in the formative structural aspect up to a level of typification. Depending upon the modular arrangement of columns, four basic types of corn cribs are classified in Albanian areas: Type I – two vertical fields and one small door, type II – three vertical fields and one small door in the middle, type III – four vertical fields and two small doors, type IV – five vertical fields and 2 two small doors.¹³⁷

However, what is important to be emphasized is the importance given to the

¹³⁵ Doli 2009, pp. 238-239

¹³⁶ Doli 2001, pp. 6-9

Fig. 55
Detail of the central pillar of the front facade of the Dulah Krasniqi granary in Grashticë, Prishtina by F. Doli

¹³⁷ Doli 2009, pp. 288-293

¹³⁹ Doli 2009, p. 282

¹³⁸ Doli 2009, pp. 140

non-utilitarian ornamentation of these granaries, the symbolism of which is considered as a kind of evidence for their antiquity. The decorative elements applied to both the granary and the corn crib are numerous, but they are mainly related to the cult of the sun and the snake. Without going into detailed analysis, in all their artistic forms, these elements are presented both, in the granary and in the corn crib, as protective and fortunate symbols.¹³⁸ Such ornaments applied to the granary houses are also found in other buildings of popular architecture and this comes as a consequence of the Al-

banian culture, which, unlike the cultures of other peoples of the Balkans, is presented as a closed ethnographic unit.¹³⁹

To date, the architecture and structural morphology of granaries and corn cribs in Kosovo and Albania has been analysed more in depth in comparison to that of watermills. Due to their functional interconnectedness and the fact that they are the result of the work of Albanian popular craftsmen, it is considered important for this study to make this comparison not only in terms of the concept of morphological structure, but also in terms of the stage of development in relation to the level of origin.

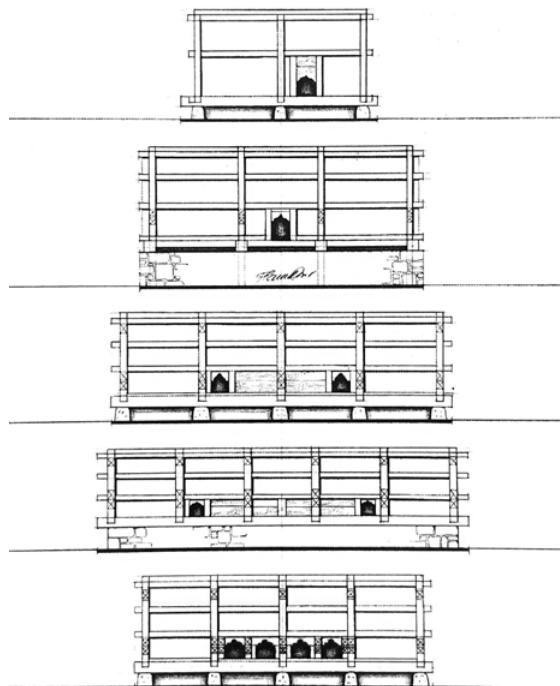
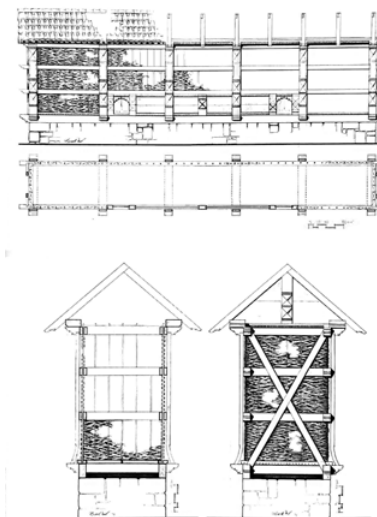


Fig. 56 (right-up) Floor plan and front facade of M. Kurmehaj corn crib, Strelc, Deçan
Doli 2009, p. 323

Fig. 57 (right-down) Vertical section and side facade of M. Kurmehaj corn crib, Strelc, Deçan
Doli 2009, p. 324

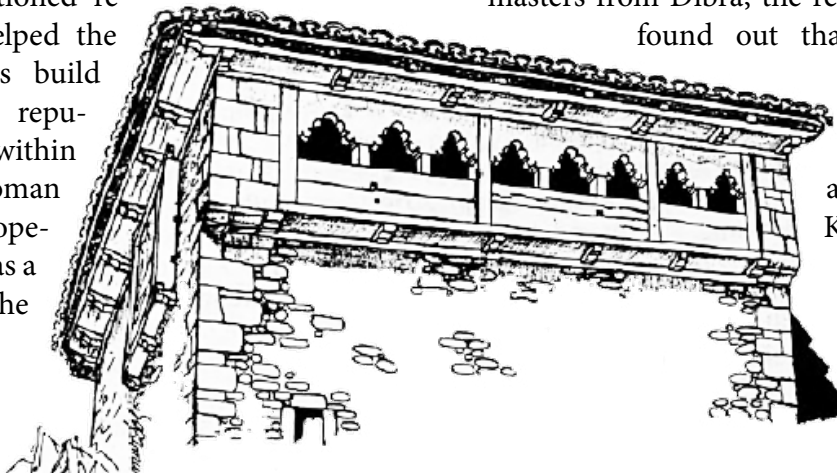
Fig. 58 (left) Construction typologies of corn cribs
Doli 2009, p. 320



3.3 ALBANIAN POPULAR CRAFTSMAN

The exceptional activity and ability in building the crafts of the Albanian popular craftsman played an important role in shaping a vernacular architecture, which developed beyond foreign influences and fashions¹⁴⁰, and which was often a powerful defence of Albanian identity throughout history.

Albanian popular craftsmen, as in the whole Balkans, were not educated craftsmen but gained their skills through practice and inheriting them from the previous generation. They were groups organized within the family or regional organizations (guilds)¹⁴¹, such as artisanal groups from the region of Dibra or Kolonja. This masonry-carpentry craft inherited from generation to generation and carefully preserved, especially in the mentioned regions, helped the Albanians build a strong reputation within the Ottoman and European elites as a result of the



successes of their work in so far as advanced residential buildings are concerned.¹⁴² According to the description of the Austrian Johann Georg von Hahn, by the middle of the 19th century, almost all the men in European Turkey and the Kingdom of Greece who built walls and engaged in carpentry were from Albania.¹⁴³ Traditional Albanian crafts were not divided into masonry and carpentry, but they were executed by the same groups of workers, while craftsmen contracted and interpreted the plans. Usually for the metal works, and sometimes for the processing of the stone mass, groups of gypsies (Egyptians) were contacted in the places where the work was done.¹⁴⁴ These artisans travelled in groups led by a master craftsman and took with them animals that carried materials they needed for work.¹⁴⁵

In addition to the school of well-known masters from Dibra, the researcher F. Doli found out that the Kosovar school of the popular Albanian master also operated in Kosovo.

¹⁴² Jaeger-Klein 2018, p. 10

¹⁴⁰ Jaeger-Klein 2018, p. 3

¹⁴³ Hahn 2015, pp. 19-24

¹⁴¹ Oliver 1997, p. 1483

¹⁴⁴ Caroline Jaeger-Klein, Zoom Lecture, ICOMOS, December 09, 2021

¹⁴⁵ Caroline Jaeger-Klein, Zoom Lecture, ICOMOS, December 09, 2021

Fig. 59 A traditional Albanian tower house in Junik
Doli 1993, p.147

Fig. 60 Variations and the development
of the structural shaping
of the bolsters
Doli 1993, p. 105

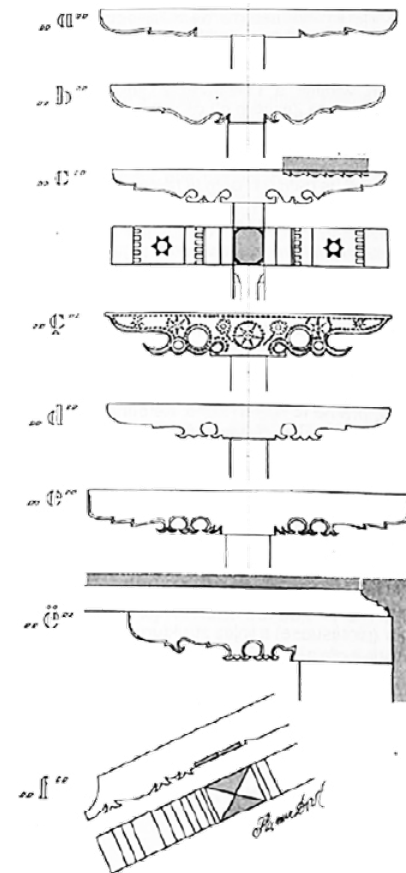
¹⁴⁷ Doli 1993, pp. 95-196

¹⁴⁸ Doli 1993, p. 201

¹⁴⁶ Doli 1993, pp. 197-199

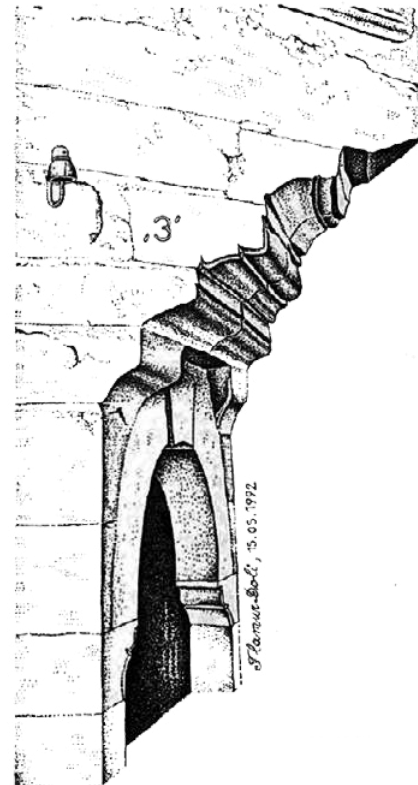
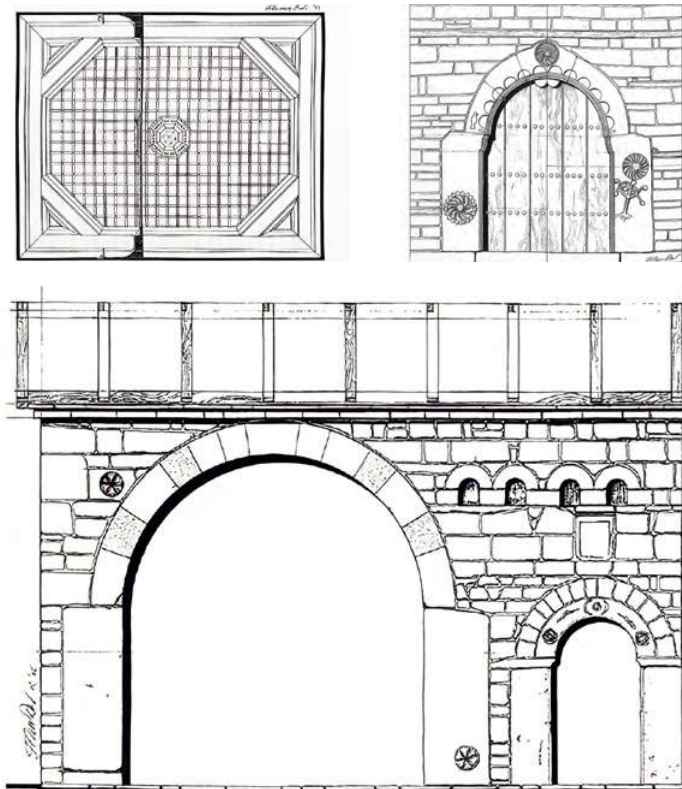
According to him, regardless of the type or time of construction, most of the popular architecture in Kosovo have great similarities not only in terms of the architectural elements, but also between the structural-constructive and shaping system, with distinct features and full identity. The popular craftsman created unique and independent elements of the popular architectural language, which he used when he crafted the corn crib, the granary, watermill, guest house, village or town house, the Albanian tower and all other profane and sacred buildings of vernacular architecture built in the period from the 16th to the early 20th century. The creation of this system of construction with specific features, within the pan-Albanian architecture, was achieved as a result of an ancient construction tradition in Kosovo.¹⁴⁶ Some of the distinguishing elements of the popular Albanian architectural language of the Kosovar school were the shaping features of the wooden pillar and bolster, the way of applying the ornaments with mythological motifs, the unified vertical elements of the fences (on the stairs or verandas), the console or the floor exit floor plan in Kosovar folk houses with certain features, characteristic placement of doors in town houses, constructive and shaping structure of the eave, “pjerrësori (Eng.: bretesse)” as an element of architec-

tural language and “erkeri (Eng.: jetty)” as another element of the structural-constructive and architectural-shaping system.¹⁴⁷ Even in the cases of those buildings which were built by the craftsmen of Dibra, such as many towers in the Dukagjini Plain, the influence of the local craftsman and the features of local character are clearly noticeable.¹⁴⁸ The experience of the Dibra masters,



however, contributed to the shaping character of the architecture of each environment in which they operated, just as the architecture with regional features influenced the formation and development of these masters. This even explains quite well their flexibility and ingenuity to use available materials and construction methods according to specific circumstances.¹⁴⁹ Nevertheless, it is important to reiterate that in all works of Albanian popular craftsmen, regardless

of the region, there are single elements of the popular architectural language of the Albanian craftsmen with a common autochthonous character and that include all Albanian popular architecture. As a result of the extraordinary ability of the Albanian craftsmen with a wide fame of stonemasons, masons and carpenters, structures were successfully erected even in the most difficult places and with a high degree of seismic resistance.



¹⁴⁹ Jaeger-Klein 2018, p. 2

Fig. 61 (up-left) Detail of an wood crafted ceiling with an Illyrian-Albanian motif - roseta
Doli 1993, p. 67

Fig. 62 (up-right) Arched entrance door of Destan Shurdhaj tower house built in 1826, Banjë, Malisheva
Doli 2009, p. 368

Fig. 63 (down-left) Arched entrance door of Sylërexha tower house in Vranoc, Peja
Doli 2009, p. 407

Fig. 64 (down-right) "Erkeri" above the entrance door of a store-house in Mitrovica built in 1937
Doli 1993, p. 195

3.4 'BREAD' AND 'MILL' IN POPULAR PHRASES AND SAYINGS

Through popular phrases and sayings, we can often understand the culture, way of thinking, tradition and even the history of a people. To understand the importance of “Mill” and “Bread”, some popular phrases and sayings have been selected which are thought to show in one way or another something of Albanian’s daily life nowadays and in the past. However, it is important to note that phraseologies are considered very difficult to translate as they are rooted in the culture of the respective language and are used differently; consequently, in many cases the translation loses the expressiveness of what is supposed to be transmitted.¹⁵⁰ However, below next to each selected saying, which are written in the original dialect of the Albanian language from where they originates, there is a brief explanation that helps in the correct understanding of the selected saying.

1. “Mulliri bluan me aq ujë sa ka.”

The mill grinds with as much water as it has.
Explanation: We can do things to the extent we can and within certain limits which are not preset by us only.

2. “Kush vete në mulli doemos do të përmiellet.”

Whoever goes to the mill will certainly be milled.

Explanation: Anybody who participates in an activity or does a work, who agrees to do that work, must also accept its consequences.

3. “Kush ve ndë mulli ma parë, ai ma parë blo!”

Who goes to the mill first, he grinds first!

Explanation: First comes, first served!

The first people present will be the first to receive something, often something that is available in limited quantities.

4. “Dy herë flitet vetëm në mulli.”

Twice is spoken only in the mill.

Explanation: One must understand / accept and listen respectfully to the other. The sentence has the meaning of sound communication – no noise and repetition of words during communication.

5. “Vlera e miellit më shumë varet nga mullisi se nga mulliri.”

The value of flour depends more on the miller than on the mill.

¹⁵⁰ Gondek & Szczęk 2018, p.97

Explanation: The quality of a product depends more on the skills of one that produces it rather than the sophisticated means used to produce it.

6. **“Muarën vesh që jap miell hua, erdhi edhe mullixhiu të më kërktojë.”**

When they heard that I was lending flour, even the miller came to ask for it.

Explanation: It expresses human insatiability and the very nature of being greedy.

7. **“Në mulli bluhet me radhë.”**

In the mill it is ground in turns.

Explanation: It is important to show respect, patience in an activity.

8. **“Kur të vijë reni me blue në mulli, bluej se masi të kaloj reni s’ke pse kjan mrap.”**

When it’s your turn to grind in the mill, do so, because after it is over you can’t cry back.

Explanation: One should use the opportunity given and not let it go.

9. **“Mullixhiu mbetet gjithmonë me blu miellin e vet i fundit.”**

The miller always remains the last to grind his own flour.

Explanation: By being in charge of an activity you are always at the service of others. Others are in the first place, yourself is at the end.

10. **“Të urtin çoje në mulli, të marrin çoje për dru.”**

Take the wise to the mill, and the fool to pick up wood.

Explanation: Choose someone who knows how to respect, honour and has patience in a certain activity. Or, let each do the work for which one is capable of.

11. **“Është (si) çakallë mulliri.”**

(Someone) Is like a mill damsel.

Explanation: One who speaks without stopping, not letting others to express their opinion and judgment.

12. **“S’hahen bashkë turp e bukë.”**

You can’t eat shame with bread.

Explanation: Dishonest work should not be confused with honest work.

13. **“U vrava në bukën tënde!”**

I drowned in your bread!

Explanation: When one is betrayed by someone who’s trusted. For Albanians, eating one’s bread at ones home is of the highest social moral values.

14. **“Ja ha bukën e përmys kupën.”**

He eats ones bread and overturns the cup.

Explanation: One who’s not grateful to somebody.

Note: Meaning of sayings interpreted with the assistance of Ilire Raka, Albanian Language Lecturer
June 21, 2022

4 | MILLS IN KOSOVO



Fig. 65 (previous page) Mill of Qelë
Bicaj, Vrellë, Istog

¹⁵¹ <https://mediafokus.info/gjilani-si-regjion-bujqesor-kishte-numer-te-madh-te-mullinjve-disa-me-ortakerite-perzier/>
(Retrieved May 25, 2022)

¹⁵⁴ Reynolds 1983, p. 51

¹⁵² Qafleshi 2019, p. 29

¹⁵⁵ Germanidou 2014, p. 20

Water mills are one of the most important assets of material cultural heritage in Kosovo. Although insufficiently explored and most of them are inactive nowadays, in different historical periods these buildings were of great and multidimensional importance for the people of these areas; they were synonym of bread - life, hospitality and shelter. So, in addition to their primary function as economic buildings, due to their geographical position, they often served also as a meeting place for Kachaks (Alb.: kaçak), used as "men's rooms" and as a shelter for passers-by and people who came from afar to grind the grain.¹⁵¹ In a not-so-distant past, due to the distances between the settlements, almost every neighbourhood had a mill.¹⁵² Today, the number of mills is not only very small compared to the past, but also the sound of stones spinning with the help of the power of water to crush grains of wheat or corn is rarely heard, and the existing watermill buildings are almost entirely abandoned – dysfunctional and ruined. Although these buildings in one way or another have not been considered sufficiently important in their own distinguished merits, their architecture and the way of construction represent in a dignified way the work of the Albanian popular craftsmen

and are an important representative example of the Albanian folk architecture. Mostly constructed in villages or rural areas and less in towns/cities, their location was imposed by water currents, respectively, by the power of the water that was needed to move the millstone.

The beginning of the construction of mills in Albanian areas is assumed to be very early and this is supported by various writings and documents addressed in the chapters above. The use of water energy and the presence of watermills in the Balkans, based on factual writings, dates to the beginning of the 11th century.¹⁵⁴ Nevertheless, for the presence of the first mills in Albanian areas, respectively in the territory of Kosovo, there is no writing or archaeological finding that specifies the time of construction of the first watermill. The mills were important components of the infrastructure of the Byzantine cities, and this is evidenced by their location in the Byzantine city centres.¹⁵⁵ However, if we are to rely on the earlier conclusions of this research, that during the Byzantine period in the Balkans the informal architectural structures used in everyday life, such as mills, reflected the vernacular architecture of the peoples where they were built, then it is a correct conclusion that the ar-

chitecture of the mills documented in this work is a continuation of the previous work of the popular Albanian craftsmen. However, we must be clear that although the work of Albanian craftsmen has been developed despite the influence of other cultures, in broad terms, the architecture of the Balkan mills has many common elements, especially in terms of spatial and functional organization. In Kosovo, there are over 60 water mills, all of them with horizontal wheels, dating from the Ottoman period. The oldest is the "Nika Mill" built about six centuries ago. Considering the amount of grain production that Kosovo had during past centuries of Ottoman rule, this number is thought to have been many times greater than it is today. Overall, the mills built within the Ottoman Empire were not as developed as those built in the same period in the western countries and were characterized by a small and simple utilitarian architecture. However, some of the documented mills in Kosovo have a more than simple utilitarian architecture, and this implies that their architectural design was not only a consequence of their primary function – as economic buildings, but it was important that those buildings were also presentable for their other accompanying functions.

Due to the importance that the mill, irrigation canals and paths leading to it have had among Albanians, in the Kanun of Lekë Dukagjini they were considered as common good. The activity, functioning and relations related to this activity are treated in the Fifth Book, articles 69, 70 and 71, where between the lines one can read about the construction of individual buildings-houses in relation to their position towards the mills and valleys. Among other things, the Kanun writes: "*Për një shpë s'lehet mu thà një katund* (Eng.: It is not proper for a village to dry up because of a house)" and "*E mira e perbashkët i paravëhet dâmit të veçanët* (Eng.: The welfare of the community takes precedence over private welfare)."¹⁵⁶

Although, as a result of weather conditions or age, some mill buildings in Kosovo were destroyed over the years, their basic structure is believed to have remained the same and without major changes even after reconstruction. However, the number of damaged mills where the owners repaired the damage themselves using inadequate materials and easier methods is not insignificant. In many cases, this resulted in fading the architectural values of the mill buildings and the work of the popular craftsman.

¹⁵⁶ Shkreli & GO2 Albania 2018, p.155

4.1 ARCHITECTURE AND COMPOSITION

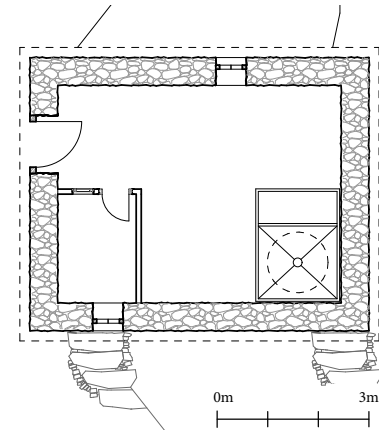
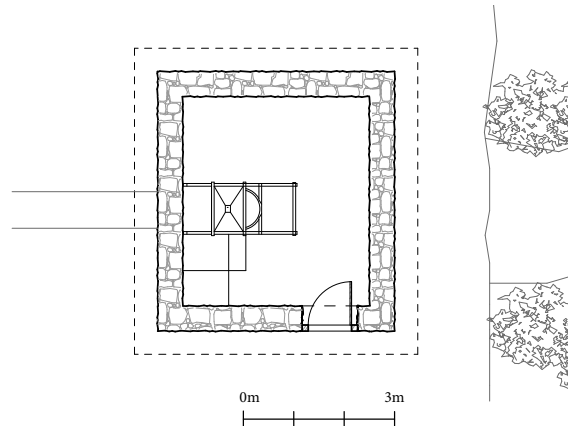
According to the typology of their plans, water mills in Kosovo mostly are rectangular structures characterized by a closed volume. This volume in some cases, when the size of the mill is small, is a single space that holds the wheels and where the process of grinding grain is performed (Fig. 66). The size of this space, respectively the length of the mill structure in such cases, depends on the number of wheels that the mill has. The mills that have the largest number of waterwheels in Kosovo are "Nika Mill" and "Mill of Bërdynaj family" that currently each have four millstones and the last one is still in operation. Although other mills of this size may have existed in the distant past, there is no documented evidence to support this theory – and in addition, the large number

of wheels is not characteristic of traditional Balkan mills.

The most common mills in Kosovo consist of two main spaces within this closed volume, where in addition to the room where the grinding mechanisms are placed, they also have a special room, mainly with minimal dimensions, known as the miller room (Fig. 67). This room is in most cases positioned near the entrance to the mill and, usually, in addition to an externally oriented window, there is another window or small hole that allows the miller to observe the situation inside the mill. This room is also used as a waiting or rest area for those who come to grind in the mill. Almost every mill has a fireplace as well, which is usually located in the designated waiting area or, if it exists – in the miller's room. In the larger mills, in addition to these two main rooms, there may be a third room that serves as a

Fig. 66 (left) Floor plan, Mill of Biçec Village, Biçec, Kaçanik

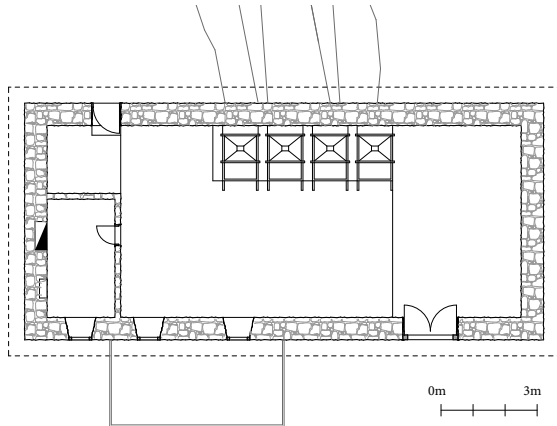
Fig. 67 (right) Floor plan, Mill of Sallaj Family, Junik



separate storage space for cereals and flour (Fig. 69).

As a special type of mills that was identified during the site visit, there are also the so-called twin mills (Fig. 70). These mills, in fact, are a single structure, built under a joint roof, and the interior of this structure is separated by a single wall, creating two spaces functionally separated from each other. They are called twin mills because from the outside the facades of both mills are almost identical and do not show their internal separation. In most cases, the division of internal spaces is mirrored in relation to each other.

During the field work, only two mills have been identified with "L" shape plan " (Fig 68) is "Mill of Sylë Rexha" in the village of Vranoc in Peja, which, in addition to serving for grinding grain, had also a special



space for processing of textile. This tower-mill, which is not the only one of its kind in the Dukagjini plain, in some respects, is more complex as a building compared to other traditional mills in Kosovo. Tower-mills and textile processing mills will be discussed in more detail in separate chapters of this paper.

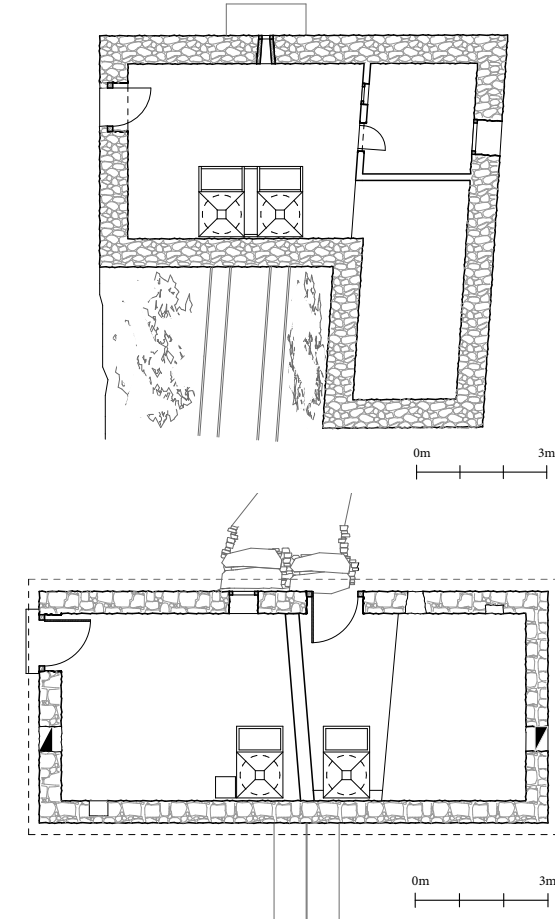


Fig. 68 Floor plan, Mill of Sylëregja Family, Vranoc, Peja

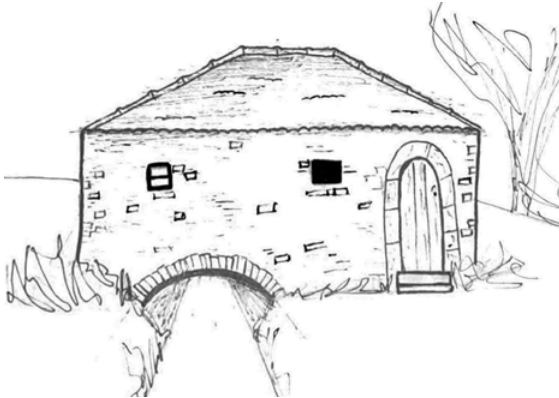
Fig. 69 (left) Floor plan, Nika's Mill, Ferizaj

Fig. 70 (right) Floor plan, Twin Mill in Hogosht also known as Ahmeti's Mill, Hogosht, Kamenica



4.2 STRUCTURE AND MATERIALS

In most cases, the buildings of traditional watermills in Kosovo are conceived as one-story and rarely two-story structures, built on stone foundations. In both cases, their structure consists of the foundation, the corpus, and the roof. The foundation is made of stone, which holds high the mill corpus in order to provide the possibility of placing the waterwheel under the building ground floor – where the millstones are placed (Fig. 72). The wheel is driven by water which comes from the chute oriented in its direction and is inserted under the mill through the arched openings of the foundation walls. Those arches are distinctive elements of the horizontal-wheeled mill buildings, and the popular craftsman has paid special attention to their construction by selecting hewn stones or slate stones to achieve the proper functionality and shape



of the arch. The number of arches that a mill can have depends on the number of wheels that the mill has, respectively of channels that bring water to move the wheels. These arches are usually built below the entrance level of the mill, although in some cases and in some smaller mills the foundations of the mill are relatively raised above ground level and give the impression of a pedestal holding high the corpus of the structure (Fig.73). This type of horizontal-wheeled mills built on a pedestal is relatively widespread in neighbouring Balkan countries, while in Kosovo mills with this type of structure are rarer and in terms of construction time are later than other typical Albanian mills. However, it should be borne in mind that inalienable factors that directly affect the structure and construction of mills are related to the topography of the land where it is located and its position in relation to the water flow.



Fig. 71 (previous page) The old Mill, Banjë, Malisheva

Fig. 72 (left) Sketch of the Mill of Tahirsadriaj family, Isniq, Deçan

Fig. 73 (right) Sketch of the wooden Mill of Gllgovica, Gllgovicë, Prishtina

¹⁵⁷ Doli 2009, pp. 68-72

Regarding the construction technique used to erect the walls of the building/corpus and the materials used, based on the field visits and the documents collected on this matter, the mills can be divided into several categories: mills with stone walls – masonry technique with dry joints (without mortar), mills with stone walls – masonry technique with clay or lime mortar, mills with stone walls and horizontal wooden beams, and mills with walls constructed entirely of wood. Masonry made of stone is more resistant to atmospheric conditions in terms of durability, but it does not have any thermal resistance and only prevents noise due to compactness.

The masonry technique with dry joints (without mortar) is very old and used among Albanians since antiquity. As a technique, it is more primitive and has been widely used for the construction of early huts, old peasant houses and up to the castle walls. The walls were constructed in the same way as we find it in the existing examples of today; between the two sides of the wall built with masonry techniques with dry joints – without mortar, with natural stones, as found in stone fields or riverbeds, the filling is done with small stones instead of mortar joints. So, the gaps presented in the joint, or right between the larger stones, are filled with smaller stones creating stability and durability of the wall.

Moreover, these constructions have been in full harmony with the natural environment where they were built.¹⁵⁷ However, we must keep in mind what has been stated above: in most mills with vernacular architecture, the intervention of owners or persons who do not have adequate knowledge, in order to prevent further destruction - has substantially damaged the values of the original architecture of these buildings.

The masonry technique using mortar, whether from clay or lime, is the most widespread technique in terms of geographical coverage among Albanians, carried out by the popular Albanian craftsman. This technique has been used in the case of the construction of Albanian houses and towers, castles and bridges, mills, and even religious buildings. The stones were usually taken from the environment where the mill was located, whether from rocks or rivers. In some cases, the wall is built of completely natural stones and the popular craftsman has always taken care to highlight the best side of each stone. In specific cases, the masonry could have been made of hewn stones or pumice stones which are easy to refine and shape. The selected stones are attached to each other with clay or lime mortar, creating massive self-supporting walls 60-90 cm thick.

According to the tradition of popular craftsmen, stones extracted from rivers or streams, after being extracted for processing, usually during the summer season, were not immediately used for masonry. The processed stones were placed on the walls only in the summer of a year later. The masonry created from these stones taken from nature have a variety of colours, thus creating unplastered facades, where the stones are visible, and the joints are very thin. Lime mortar, as the most widely used grouting material, is a combination of lime, water, and sand. In the 3rd category of mills, are the ones with stone walls and connected in a constructive whole with the help of horizontal wooden beams (Alb.: Hatulla). The technique of bonding the stones can be “dry” or with mortar, as in the cases described above, while the horizontal beams are placed at both ends of the wall and fastened with crossbeams as long as the thickness of the wall. Wooden beams are placed almost between the walls, although the number of them depends on how the popular craftsman has planned the construction of the structure. The wooden beams are visible on the facades, thus emphasizing even more the horizontality of these rectangular buildings and displaying an even more rustic architecture. They also create a higher seismic safety compared to the mills built only with stones.



Fig. 74 The mill in Jasenovik, Jasenovik, Novobërdë



Fig. 75 Old Mill of BuzhalaFamily, Buzhalë, Theranda



Fig. 76 Mill of Hajrizi (Mill of the gentleman), Smrekonicë, Vushtrri



Fig. 77 Mill of Ali Bel Bicaj, Vrellë, Istog



Fig. 78 Mill of Gani Sylja, Kishnarekë,
Drenas



Fig. 79 Mill of Vishi Family, Binçë, Viti

In the case of two-story mills, respectively, mill-towers, onto the walls of ground floor, comes the floor construction consisting of wooden beams which offer great opportunities for architectural shaping – spatial and functional of the floor.

Wooden mills are small structures, built on stone foundations, that give the impression of a pedestal and usually consist of only one room where the grain grinding mechanism is placed. These mills are built of wood material throughout their structure. Their basic construction is very simple, consisting of vertical pillars supported by horizontal beams. This construction is covered with horizontally placed wooden planks, which form the walls of the mill, respectively its corpus. The number of vertical pillars, respectively the vertical fields created by the pillars, depends on the length of the mill structure. Since the dimensions of the mill are relatively small, these pillars are located only around the foundation walls. As in other Balkan mills (examples) and wooden huts of similar dimensions, in these structures we encounter diagonal reinforcements in the facade walls. In some cases, such as the “Gani Sylja Mill”, the mill walls may have been made of prefabricated wooden elements, enabling the wooden walls or the beams to be connected by bonding to each other without the use of nails.

Nevertheless, compared to the architecture of the granaries as structures made entirely of wood, the architecture of the wooden mills is much simpler, more superficial, and devoid of mythological ornaments on the façade. Also, the durability of wood as a material is much shorter than that of stone. Therefore, for these mills to last, from time-to-time interventions had to be made by owners or professional craftsmen. Existing wooden mill buildings in Kosovo appear to later period of time than stone ones. If such structures have existed before, it cannot be said with complete certainty from what it has been documented.

In addition to the aforementioned techniques and materials, during the field visits, mills with combined construction made of stones, horizontal wooden beams and bricks were identified – so the walls of the mill corpus were constructed with a combination of these materials. The combination of such materials may be as a result of occasional interventions due to various damages, or in case that they were built from the beginning with such materials may be the result of the work of the mill owners themselves or other people who have helped in the construction of mills without attempting to bring out any value to these buildings beyond the functional one.



Fig. 80 Wall detail, Mill of Hajrizi (Mill of the gentleman), Smrekonicë, Vushtrri

Fig. 81 Wall detail, Mill of Sylërexha family, Vranoc, Peja

Fig. 82 Wall detail, Mill of Qelë Bicaj, Vrellë Istog

Fig. 83 Detail of the foundation wall, Mill in Glogovica, Glogovicë, Prishtina

Fig. 84 Wall detail, Twin Mill in Hogosht, Hogosht, Kamenica

Fig. 85 Wall detail, Mill of Ali Bel Bicaj, Vrellë, Istog

Fig. 86 Wall detail, Mill of Sylërexha family, Vranoc, Peja

Fig. 87 Wall detail, Mill in Jasenovik, Jasenovik, Novobërdë



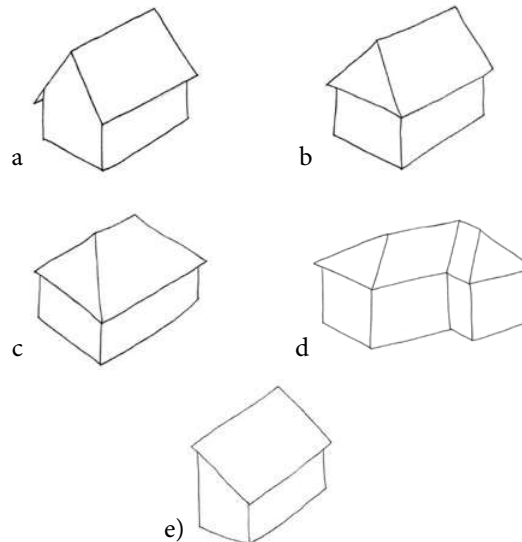
4.3 ROOF

The roof, in addition to playing an important functional role in the mill buildings, protecting their interior from rain and heat, is also an important architectural element in terms of constructive, functional, and aesthetic design of the building.

Generally, the construction of the roofs consisted of wooden beams and wallplates which in the best cases could be made of pine wood. On the construction created from the beams, wooden planks or slats were placed and, on top of them, coverings or final layers of natural stone slates or traditional tiles, known in the popular language as Roma tiles, were placed. After later interventions, the traditional coverings of stone slate tiles or Roma tiles were replaced with Marseille tiles or galvanized sheet metal which in most cases dilutes the overall values of these buildings and makes them look as to not be in full harmony with the other part of their structure and the surrounding landscape.

In earlier times, the roofs may have been covered with wooden boards, as in many

neighbouring Balkan countries, but due to short-term durability and difficulties in securing and processing the material, there are no traces of this type of covering in Kosovo.¹⁵⁸ Due to their qualities, the boards/panels used for roofing were those made of pine wood, respectively the heart of the pine trunk was taken as the part with the most resin and dense fibres and had a durability of up to 50-60 years.¹⁵⁹



¹⁵⁸ Talk with Osman Gojani, April 07, 2022

¹⁵⁹ Shkreli & GO2 Albania 2018, p.111

Fig. 88 (previous page) Close-up image of the roof covering at Mill of Rexhep Shatri, Kushnin, Prizren

Fig. 89 Roof types: a) open gable roof, b) box gable roof, c) standard hip roof, d) cross hipped roof, e) shed roof



Fig. 90 (left) Close-up image of the stone slab eave at the Old Mill in Banjë, Malisheva

Fig. 91 (right) Close-up image of the Roma roof tiles at Sinan Gashi's Mill, Mramorë, Prishtina

The stone slates that were used as roof covering had a thickness of 2-3 cm and a surface/size that was created as needed. According to the traditional technique, the slates usually cover each other with 1/3 of their surface. The work begins with the placement of the largest slates in the eave, as the amount of water flowing is greater exactly there and then climbing to the upper part of the roof the slates begin to shrink. In terms of the possibility of rainwater seepage inside the mill, in the placement of roof coverings, the most challenging part was that around the chimney and the connection of the two sides of the roof. The roof slope of a roof covered with tiles or stone slates is max. 25°-30°. ¹⁶⁰ Roma tile coverings have a shape of half-cone and placing tiles on the roof requires a bit more particular care. They are placed in

two layers that overlap each other. A plank floor serves as the substrate. The first layer of tiles is placed on the ridge above the substrate, creating rows starting from the top of the roof to the frame or to the deepened beams of the roof. Rainwater flows into these lines; hence they are called gutters. The best tiles are chosen for the construction of gutters. The second layer only serves to cover the joints between the rows of the first layer. In order for the first-row tiles to have the same slope as the tiles coming up, in some cases, a little mortar is placed under these tiles. Considering that, according to the popular method of construction, the tiles stay on the roof only thanks to their friction with the substrate planks, the roof slope should be relatively low and not higher than 22°. ¹⁶¹

¹⁶⁰ Pavaci 2017, p. 15

¹⁶¹ Pavaci 2017, p. 16



From the inside part the roof is usually bare, the construction is visible from the inner part of the mill and there is no additional insulation. In some cases, when the corpus walls of the mill are higher, with the placement of the planks that create the loft floor construction, between the roof covering and the attic floor is created the space, which serves as an intermediate area, protecting from the heat in summer and from the cold in winter. This space is often used by owners as a warehouse for work tools. Beams and the loft floor construction – in cases when applied, protruded out from the façade form the roof eave. However, there are cases when the wall plate that forms the eave is also made of stone. In some mills their eave is not more than 15 cm, while in some others the extension of the eave out-

side the façade goes up to 60 cm.

As for the shape of the roofs, they are simple in shape and convey the uncomplicated shape of the base of the mill structure. As implied by the above conclusions, all mills in Kosovo have a sloping roof and, as in all other buildings belonging to the vernacular architecture, this may be as a result of climate and avoidance of problems related to rainfall. Also, the sloped roof has been even easier to be constructed at the time they were built. From the field visit, the following types of roofs have been identified: a) open gable roofs, b) box gable roofs, c) standard hip roofs, d) cross hipped roofs and, in almost rare cases, e) shed roofs were encountered (the case of the Twin Mill in Hogosht).



Fig. 92 (left) Close-up image of the wooden roof construction at Mill in Glllogovica, Glllogovica, Prishtina

Fig. 93 (right) Close-up image of the wooden roof construction at Sinan Gashi's Mill, Mramorë, Prishtina



4.4 DOORS, WINDOWS AND TURRETS

Doors and windows, in addition to the importance associated with their function, are a very important part of any building, giving character to their architecture. In their functional aspect, the doors serve as transitional elements from one space to another and provide security and privacy for users. The materials, dimensions and decorations used on the front doors are an important part of the facade mosaic and to some extent reflect the importance of the building as a whole. As described above, the façades of the mill buildings are mainly bare of non-functional elements. Thus, in certain cases, through carefully worked functional elements, they have revealed the tradition of the Albanian people and the knowledge of the popular craftsmen. This can easily be said for the front doors of the mills that, if we compare with the ornamentation that may have been used in other typologies built by the popular craftsman, in these doors they have not been applied at all. Of those mills that have still remained, the only cult element that can be encountered here and there and hung over the front door of a mill is the horseshoe. The horseshoe was placed on the door, with the edges turned down or up, believing that it protects from evil, brings good and luck. Depending on the function, they are di-

vided into external and internal doors and in all cases the composite material is wood taken from the area. Based on existing examples, the glass as a material, on a small surface area, could have been used only for interior doors, e.g., the door that separates the grinding space from the miller's room. However, most of these doors are placed in the mills built during the 19th or 20th century.

Exterior doors are relatively small in terms of size and by today's standards somewhat strange. The lowest doors have dimensions starting from 1.45 m and the highest ones documented go up to 2 m height. This height level complies to and is imposed by the floor height inside the mill buildings. In terms of door width, mills can have single-leaf and double-leaf doors, depending on the size of the mill. For single doors, the dimensions vary from 0.6 m to 1.6 m, while for double doors start from 1.2 m and reach up to 2 m. Based on the shape, the mill doors can be divided into arched doors and ordinary rectangle shaped doors.

In mills, the doors can generally be with or without portals. In cases where the doors are without portals, they are supported directly on the walls of the mill. In the mills where more importance has been paid to their architecture, and it has been a tendency for the architecture they represent to go

Fig. 94 (previous page) Mill of Islam Zeneli, Pagarushë, Malisheva



Fig. 95 Double arched stone portal at the Mill of Qelë Bicaj, Vrellë, Istog

Fig. 96 Stone portal with arch of six stones at the Mill of Tahirsadriaj family, Insiq, Deçan

Fig. 97 Arched Stone portal at the Mill of Ali Bel Bicaj, Vrellë, Deçan

Fig. 98 Rectangular wooden portal with wooden architrave and door leaf at the Old Mill, Banjë, Malisheva

Fig. 99 Wooden portal with wooden architrave and door leaf at the Mill of Sinan Gashi, Mramorë, Prishtina

beyond functionality and being also representative, the portals were made of stone. The stone portal could be of arched stone, with monolithic stone architraves (with or without side corners), while in the case of mills with simpler utilitarian architecture, the portal was built of wood. In some mills constructed later on, doors with concrete portals can be found, but of course this does not correspond to the traditional ways of construction. Other door elements such as hinges, locks, nails, or latches are made of wrought iron by the masters of the time who were engaged in metal processing. Door sills could be made of wood or stone, in most cases the same material was applied as the portal of the respective door.

The window as the main element of the façade, in the functional sense serves to illuminate and ventilate the interior space of the building and in a way also connects the interior with the exterior. Lighting and ventilation, as the main factors that determine the size of windows in terms of function, to some extent seem to have been ignored when it comes to mill buildings, be it at single-story or two-story mills. The windows of these buildings are quite small in terms of size and thus obtaining the minimum of light and ventilation. This also applies to the spaces of the mills that served as waiting areas or as a temporary residence. Then, in some small mills, there are even no windows at all. Mill windows initially had shutters only made of wood, and later in some



cases were replaced with glass sashes. When the windows are very small, they have only one wooden shutter, while the large ones have two shutters that open from the inside, whether made of wood or glass sashes. Apart from the fact that glass was an expensive material, the small size of the windows could also be due to the difficulty of heating the environment in case larger windows were applied. The shape of the windows can be square, rectangular, or even with arched architraves. However, windows generally have a rectangular shape and the dimensions vary a(25 cm - 80 cm) and b(20 cm - 90 cm). In cases where there is a loft floor, the dimensions of the windows are very small as this space was maximally used as a sort of warehouse. The maximum height of

the windowsill from the floor is determined by the height of the light in the room; however, it is not less than 80 cm. Their frame is generally made of stone and wood. Just like at the door portals, at some not very old mills, there are cases when the frame is made of concrete poured into the structure. In some mill-towers, respectively at the “Mill of Sylërexha family”, we also encounter turrets. The turrets are weeping or perforated, like small and narrow windows, usually typical of tower walls and used to shoot with a weapon. Unlike windows, they are always open, have no shutters and are quite small. In the case of the abovementioned mill, their dimensions vary from 7 cm x 15 cm to 10 cm x 25 cm.

Fig. 100 Rectangular window with monolithic stone frame at the Mill of Tahirsadriaj family, isnqi, Deçan

Fig. 101 Stone arched window at the Mill of Qelë Bicaj, Vrellë, Istog

Fig. 102 A typical rectangular window with wooden frames and architraves at the Mill in Metehi, Metehi, Podujeva

Fig. 103 Rectangular wooden portal with wooden architrave and door leaf at the Old Mill, Banjë, Malisheva

Fig. 104 Stone turrets at the Mill of Sylërexha Family, Vranoc, Peja



4.5 INTERIOR AND ITS ELEMENTS

In most of the cases, the interior of the mills is a simple space with floors made of compacted soil or, in the best cases, with wooden floors, respectively with planks made of pine wood. The walls of stone mills, unlike the facade, are generally plastered. Plaster mortar is made of sand and lime, but there are cases when the masonry is painted directly with lime even without plaster. In some cases, the masonry from the stone can be left completely bare as in the facade. As for the wooden mills, in the interior part, apart from the wood, no other additional material is applied to the walls. The ceilings of the mills are also made of planks – in cases when the mill has the space of the attic/loft – or, in the other cases, when the roof of the mill is bare, the beams and other parts of the roof are visible. Where the mill has more than one space, given that there are other rooms, the partition walls are significantly thinner than the external ones and are usually plastered and limed.

At some mills, part of the interior is also the fireplace (Alb.: vatra), which has served to heat mill's inner space and, depending on the mill, to also bake bread. In two-story mills, the fireplace usually had a central position in the room which has served as a waiting area.

The main element in the interior of any mill is ultimately the grinding mechanism. The main components of the grinding mechanism are as follows:

HOPPER: The hopper is made of wood, in the shape of a funnel and has a height of about 1 m above the upper stone of the mill. The grinding process begins by emptying the grains from the sacks into the hopper, and then through the feeder-channel (Alb.: Imshta, bluda) they fall on the millstone to be grounded and turn it into flour as a final product. The amount of grain that the optimal hopper can hold goes up to 50 kg although it is not always the same size. The hopper is a movable part of the grinding mechanism and can

Fig. 105 (previous page) The interior of a typical mill in Kosovo, Nika's Mill, Ferizaj

Fig. 106 (left) Grinding mechanism at Nika's Mill, Ferizaj



Fig. 107 (right) Grinding mechanism at the Mill in Metehi, Metehi, Podujeva



Fig. 108 Grinding mechanism at the Mill of Biçec Village, Biçec, Kaçanik



Fig. 109 Grinding mechanism at Sinan Gashi's Mill, Mramorë, Prishtina

be replaced from time to time in case of damage or any other maintenance needs.

MILLSTONE: The millstone is thought to be older than the mill wheel itself and is almost the main part of the grain grinding mechanism. Located right below the hopper, the upper stone has a diameter that goes up to 1.3 m and weighs up to approximately 200 kg. The stone needs to be constantly sharpened and maintained requiring hammer and chisel. Dressing could have been carried out by a specialist but many millers were able to do it themselves. Maintenance, in addition to being necessary for the grinding of grain properly, is also important for its longevity. The miller would only have the stones “dressed” when he judged they were no longer milling efficiently. The lifetime of a millstone is around 10 years and can then be replaced with another stone. The lower stone, which is in a static position, is similar with the movable upper stone though it has a smaller central hole through which the stone spindle passes.

KËRÇALI: “Kërçali” is a wooden structure used to place the millstone during “dressing” and allows the bottom of the stone to be dressed without turning it to the other side. Since the stone is very heavy to be moved, its placement in the supporting structure is

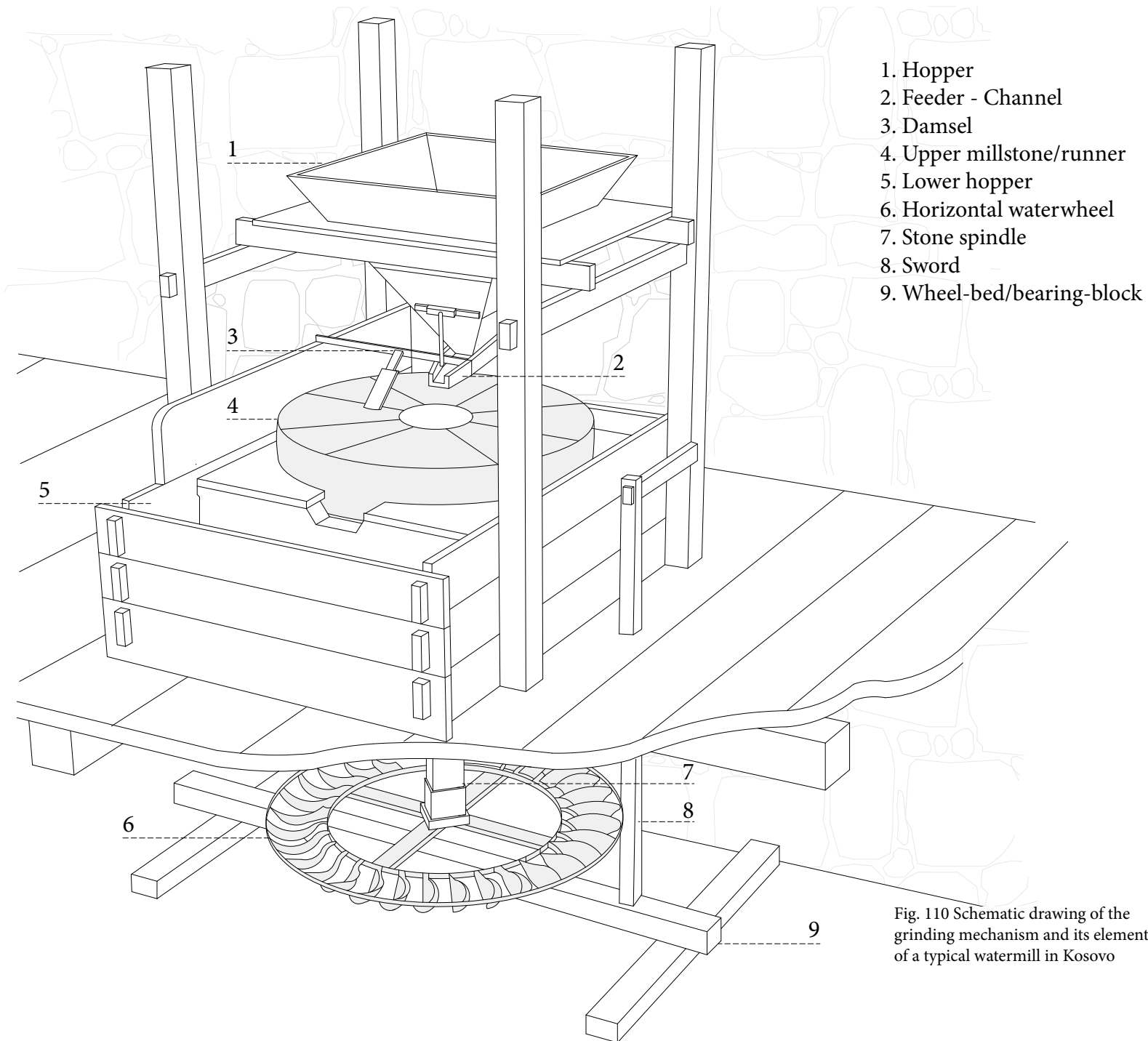


Fig. 110 Schematic drawing of the grinding mechanism and its elements of a typical watermill in Kosovo

https://issuu.com/diellezatahiri/docs/booklet_-_frok_dokici_mill
 (Retrieved June 5, 2022)

Fig. 111 “Shinik”, image captured at Nika’s Mill, Ferizaj



Fig. 112 (left) Weighing scale, image captured at Mill of Frrok Dokiqi, Letnicë, Viti



¹⁶³ https://issuu.com/diellezatahiri/docs/booklet_-_frok_dokici_mill
 (Retrieved June 5, 2022)

Fig. 113 (right) Mera, image captured at Nika’s Mill, Ferizaj



Fig. 114 Old metal weights, image captured at the Mill of Qelë Bicaj, Vrellë, Istog



done with the help of an auxiliary handle called “valjak”.¹⁶²

The commonly used tools and other elements within a mill’s space are as follows:

WOODEN SINK: As a result of the energy released by the friction of the stones while grinding the grain, the flour coming out from the mill is warm. In order to cool it down, it is placed in a deep wooden container, usually in a rectangular shape, which in the vernacular language is called “Korita”. Korita has a hole that allows the flour to aerate inside it and, for the flour not to leak out of the container a corn cob is placed in the hole.¹⁶³

MAGJJA (Eng.: Wooden storage chest): “Magjja” is a traditional Albanian wooden chest and is in the shape of a wooden box, which was used to store flour and prepare bread dough. At the bottom of it, there is a small cupboard divided into two parts, where, on the one side are stored flour and ingredients to prepare bread, while the other side of the cupboard serves to hold rags and similar items. The upper part is used for kneading bread dough. The construction structure of the magja, as with the traditional Albanian granary, is made of prefabricated elements and its front part is decorated with ornaments, be it with cult symbols or

simply decorative geometric. Magjja in the past is thought to have had a religious or sacred character associated with the importance of flour and bread.¹⁶⁴

However, it should be noted that although in principle “magjja” has the same form everywhere among Albanians, depending on the region, there may be some small differences in its construction and especially in the ornamentation used.

SHINIK (ENG.: BUSHEL BASKET):

It is a flour handmade basket, which is made of thin wooden planks, known by the locals as “shinik”, and used as a unit of measurement in the mill. One bushel should hold up to twelve kilograms of flour. Usually for each ground “shinik” a part from the mill is taken, which is divided between the worker and the owner of the mill.¹⁶⁵ This quantity



is taken from the shinik by using another tool that in the vernacular language is called “arpka” or “mera” and has been used for measuring weights less than one kilogram. Mera is also made of wood and has the shape of a large spoon. Both, the shinik and the mera, later could have been made of metal.

WEIGHING SCALE: The miller weighing scale is a metal scale, with a scaled tail and a plate hanging in three chains, where the flour is put to be weighed. In the Albanian vernacular language it is known as “kandar”.

FLOUR SIEVE: It is a container which is used in the mill to remove bran or other unwanted residues from the flour. The traditional sieve used in mills is dense wire mesh and stuck in a wooden circle.



¹⁶⁴ Doli 2009, p. 296

¹⁶⁵ https://issuu.com/diellezatahiri/docs/booklet_-_frok_dokici_mill
(Retrieved June 5, 2022)

Fig. 115 (right) Flour sieve, image captured at the Mill of Tahir Lush Bërdynaj, Radavc, Peja

Fig. 116 (left) “Magjja”, image captured at Mill of Frrok Dokiçi, Letnicë, Viti



4.6 FUNCTION AND POSITIONING

As most of the watermills in the Balkans, also in Kosovo all old water mills are ordinary mills with horizontal wheels and belong to the old tradition of their construction. Horizontal wheeled mills, as described in the previous chapters, are very ancient and primitive in terms of construction and operation, consequently, have low efficiency in the use of water energy.

The way of their operation is almost the same in all mills, with few small differences due to their positioning in relation to the water flow. Depending on their position in relation to the water flow the mills can be:

- a) *mills positioned directly next to the stream* – rivers, streamlet, or mountain springs, where only a small diversion through a dam orients the water to the mill valley;
- b) *mills positioned afar from the stream* – where the water line is oriented towards the mill until it reaches a dam that is built with

stones or any other material and from there to the mill valley; and

- c) *mills positioned above/on the stream* – where the water from the stream flows directly into the waterwheel.

So, in all cases, the mill wheel is fed by water which comes directly from the dam, enters the mill chute (Alb.: Lugu i mullirit), which is another sloping channel (about 30° in the vertical), and when the water descends to the end of this channel, it hits the wheel and hits its edges to set it in motion. It is important to note that the speed of the water and not the weight of the water plays the main role in moving the wheel. Since the wheel blades are not located on a shaft, much of the water energy is lost and as a result the rotation of the millstones is not faster than the wheel itself. The mill has two stones connected to each other – the lower and the upper stone. The wheel is nailed to the shaft and when it rotates it moves the lower stone and consequently the upper one.

Fig. 117 (previous page) Wooden water chutes/channels at the Mill of Tahir Lush Bërdynaj, Radavc, Peja

Fig. 118 Close- up image of the grinding mechanism during grinding process, at the Mill of Bekim Binak Kamberaj , Uqë, Istog



Fig. 119 Metallic part of the stone spindle at the Mill of Sallaj Family, Junik



Fig. 120 Sword (Alb.:Pelëza) at the Mill of Qelë Bicaj, Vrellë, Istog



The mill has a tool for lifting the stone as needed, depending on how the grain should be grounded, finely or coarsely. In general, the process of grinding grain is not very fast, if we compare it with the vertical wheel mills of the same period. Mills in Kosovo have a grinding capacity of 300 kg to 500 kg per day per wheel.

As described in a greater detail above, the upper part of the mill – the grinding mechanism, consists of the upper stone, which in some cases can be covered with a tin to prevent the flour from leaking, the hopper, the feeder-channel (Alb.: *imshta*, *bluda*) and the lever that control the stone spindle or the vertical spindle (Alb.: *Helika*). The stone spindle is fixed in the waterwheel and is made of durable wood material, which can be oak wood. The grain is thrown into the hopper raised on the upper stone of the mill and through the feeder-channel falls on the millstone when it is released through the handle. The uniform movement of the stone is enabled by the mill damsel (Alb.: *Çakallja e mullirit*), which when in contact with the stone creates constant noise.

In terms of materials, the waterwheel, the grinding mechanism and the water channel or the chute were initially entirely made of wood; and later, due to non-durability, some parts were replaced with metal ones.



MILLS IN THE WESTERN REGION OF KOSOVO Dukagjini Plain

The Dukagjini Plain is the flat part of the western region of Kosovo. In addition to being characterized by impressive mountains and valleys, this part of Kosovo consists of a dense water network. Utilizing these watercourses, whether from rivers or streams, the inhabitants of this side of Kosovo had set up a large number of water mills for their needs. It is said that each neighbourhood had its own mill, and according to some legends, once almost every fifth family built a mill. Only in the city of Gjakova, there were 17 mills built¹⁶⁶, while in that of Prizren, only on the banks of the Lumbardhi River, about 15 of them.¹⁶⁷ In addition to ordinary mills and the smaller ones in size that can be found in other parts of Kosovo, the Dukagjini Plain is characterized by the presence of tower mills. Similar to the famous Dukagjini Towers, these mills are very carefully built by the popular craftsman with stones, wood and lime mortar. The tower mills are two-storey buildings, with massive walls, carefully crafted door portals, small windows, and turrets. Even in these mills, just like in the towers, we encounter the “Men / Guest Room” as one of the main spaces in the architectural composition of the tower.

The Dukagjini Plain includes: Peja, Istog, Deçan, Gjakova, Rahovec, Prizren and Theranda.

¹⁶⁶ Talk with Osman Gojani, Director of Regional Centre for Cultural Heritage Gjakova, April 07, 2022

¹⁶⁷ Krasniqi 2017, p. 88



Fig. 121-123 Mill of Tahir Lush
Bërdynaj, Radavc, Peja

MILL OF TAHIR LUSH BËRDYNAJ

Location: Radavc, Peja

Coordinates: 42°43'59.5"N | 20°19'07.6"E

Altitude: 509m

Year: 1750

Current state: In use/restored

Bërdynaj Mill or the Mill of Tahir Lush Bërdynaj is one of the most beautiful water mills in Kosovo. This is not only because of its architecture, but also because of its geographical positioning and the beautiful landscape that surrounds it. This mill is located at the entrance of the village Radavc of Peja and according to the owners and residents of the village, it is thought that this mill was built around 1750, although there are no documents that prove the exact date of construction. This mill has been owned by the Bërdynaj family since 1925, from where it got its name.¹⁶⁸

Moreover, what makes this mill notable is the fact that it is one of the most powerful and largest mills in Kosovo, there are 4 millstones for grinding grains – consequently 4 wheels that rotate by the power of the water coming through wooden channels.

The architecture of the mill is similar to that of the Dukagjini towers and, therefore, such mills are popularly known as tower-mills. According to the owners, this mill initially had only one storey and after it was taken

over by the Bërdynaj family, another one was added.

The building has a rectangular plan with dimensions 6.30 m x 12.60 m, it is built with stones bonded with lime mortar by experienced craftsmen using the same methods as by the construction of Albanian towers. The stones used for the corner are hewn stones, while the rest of the building is made of natural stones. The outer walls are massive walls 60-65 cm thick, while the partition walls of the inner spaces are made of wooden planks placed horizontally. The floor and ceiling is also made of planks, while beams are made of pine wood. The ground floor is connected to the first floor through a pair of wooden stairs. The mill also has a loft, which, due to the slope of the roof and the lighting it receives from two small windows, had the potential to be used but according to the owners this space has never had any function. The mill has an open gable roof with a construction of wooden beams and it has a relatively large slope covered with tiles. The roof eave is made of stone, and it extends beyond the contour of the building plan somewhere 15-20 cm.

The facade was initially only made of stone, while later was partially covered with mortar and lime by the owners themselves to cover the damage it had suffered over the years. Of course, this has damaged its values.

¹⁶⁸ Talk with the Ragip Bërdynaj, current mill owner/inheriter of Bërdynaj family, October 17, 2020

¹⁶⁹Talk with Ragip Bërdynaj,
¹⁷⁰<https://dtk.rks-gov.net/Objekti?heritageId=2681>
(Retrieved June 18, 2020)

The main entrance door to the mill is made of wood and has an arched portal made of stone. Window openings have rectangular shapes and different dimensions; some of them have wooden architraves, while some have arched brick architraves.

The stone made interior walls are plastered and painted with lime, while the partition walls are made of planks and are not plastered. As for the interior spaces/rooms, on the ground floor there is the miller's room, as well as the space for grinding and an annex which was added later and where the toilet is now located. Wooden stairs lead to the first floor where a central corridor separates the bedroom and the living room.

The living room occupies the main part of this floor where the fireplace is located. Since the waiting queues to grind in this mill were very long, sometimes even organized caravans, the waiting time could take up to three days. The spaces created on the upper floor served to accommodate all those who were waiting to grind the grain. As there were often guests coming from more distant places, in the yard of the mill was a stable of horses that had space for about 30-40 horses.¹⁶⁹ The mill was restored in 2012¹⁷⁰ and has preserved the visual and architectural features of the last intervention made by the Bërdynaj family around the middle of the 20th century.



Fig. 124 Close-up image of the side facade at Mill of Tahir Lush Bërdynaj

MILL OF SYLËREXHA FAMILY

Location: Vranoc, Peja

Coordinates: 42°33'38.4"N | 20°24'59.3"E

Altitude: 452m

Year: XIX

Current state: Not in use/in moderately good condition

The mill of Sylërexha family is considered to be about 300 years old, which was initially owned by the brothers Sylë and Sejfi Rexha, from whom it got its name.¹⁷¹ However, the building in its shape and architecture we see today, is the result of interventions of the 19th century.¹⁷² Its architecture is very similar to that of the Dukagjini towers. From the outside, the only element that distinguishes it to be seen as a mill building, are the wooden channels that bring water to put the wheels in motion and the mill arch that allows water to pass from one side to the other. These wooden channels or chutes date back to the time when the mill was built.

The tower-mill of Sylërexha family, has some characteristics that distinguish it from other mills documented in this paper: it is one of the very few that has a plan L, it is one of a few mills that have turrets and, as there are very few mills in Kosovo left with this feature, – except part of the grinding – has also the wool processing space (Alb.: Valanica), which is now inactive.

The mill building has two storeys, the ground floor and the first floor, and is built of river stones with mortar joints and wooden horizontal beams. The masonry of the facade is irregular, the stones used for the corner are hewn stones and significantly larger than the stones used for the rest of the walls. Their dimensions can go up to 60 cm wide and 40 cm high. Apart from the walls around doors and windows, the rest of the walls are made of smaller natural river stones. The entrance door is made of sheet metal and does not belong to the traditional materials that were traditionally used for doors. The door has a stone portal with a monolithic arch and side corners. As in traditional towers, the window openings are very small, offering little opportunity for lighting and ventilation for indoor spaces. Most of the windows have arched stone - monolithic architraves; three of them have side corners made of stone, while one of the windows has a rectangular shape with monolithic wooden architrave. The mill has also some small holes in the walls – turrets, which serve for firing. A similar hole is found above the entrance door of this building – so if someone tries to enter by force to be attacked with a rifle. On the ground floor, there is the space for grinding, the mill has two grain grinding mechanisms and there is a special space where the “valanica” is located. To move

¹⁷¹ <https://www.koha.net/kosove/141814/mulliri-300-vjecar-i-bukes-dhe-i-barutit/> (Retrieved April 5, 2022)

¹⁷² Talk with Arsim Mulhaxha, Regional Centre for Cultural Heritage Peja, April 7, 2022

⁷³ Talk Blerim Krasniqi, one of the current mill inheritors of the Mill of Sylëregja Family, June 6, 2022

the wheels of the mill, a water channel about one kilometer long has been opened, from the river Lumbardhi in the village of Kotradiq, as there was no other source nearby.¹⁷³ At the valanica space, there is an opening in the walls, from where the water enters and which sets in motion the fulling stocks (Alb.: Dërstilë, valanicë) that serves for the processing of the textile, respectively felt (Alb.: Zhgun, shajak). On the ground floor, there is also a mill room which is separated by brick walls and plastered with lime mortar, but which does not belong to the traditional materials used by the popular craftsman. The other interior walls are unplastered, while the floor is partly of compacted soil and partly of planks.

The floor construction of the first floor is made of beams and wooden planks. On this floor, where there are spaces for rest and sleep, access is impossible due to inadequate maintenance and age of the floor construction.

The construction of the roof is also formed from wooden beams covered with slats and with a final layer of tiles. The top ridge of the roof is made of stone and the roof eave extend for about 20 cm beyond from the contour of the building.

Due to the damage caused by the recent war in Kosovo, to bring it to the state as it was before, it was necessary to intervene and take care of it in order to preserve its traditional architecture values.



Fig. 125 Close-up image of the second floor windows on the rear facade at the Mill of Sylëregja family



Fig. 126-132 Mill of Sylëregja family, Vranoc, Peja

Fig. 133-137 Mill of Me-
met Bricori, Kamenica,
Peja



MILL OF MEHMET BRICORI

Location: Kamenica, Peja

Coordinates: 42°34'00.4"N 20°26'01.3"E

Altitude: 446m

Year: XIX

Current state: Severely destroyed

The Mill of Mehmet Bricori was built when it was owned by the family of Halil Mehmet Berisha, which was considered as one of the richest families of the time. The mill was built at the end of the 19th century and served the needs of 18 surrounding villages.¹⁷⁴ It is a structure with two floors and was built by popular craftsmen with the same techniques as other tower mills. It has a rectangular plan with dimensions 8.50 m x 8.00 m; it is built with river stones joint with lime mortar and horizontal wooden beams, while hewn stones were used in the corners of the building, around windows and doors. The masonry is irregular, and the window openings have small dimensions. The front door is made of wooden planks and, apparently, later was coated with a layer of sheet metal so not keeping with the traditional concept. The door has a stone portal with a monolithic arch and side corners. The windows are rectangular in shape, with wooden shutters and have monolithic wooden architraves. In addition to the windows, the mill also has a turret on its eastern facade and an

observation turret used by the miller located above the entrance door.

On the ground floor were placed two millstones, one serving for grinding wheat and the other for grinding corn. In addition to this space, on this floor there is also the miller's room. The interior walls are unplastered or painted. The floor of the ground floor is paved with compacted soil, while from the first-floor construction only the wooden beams have remained. The mill is not in good conditions. The planks, which were placed on the beams and formed the floor construction of the first floor, do not exist at all. The stairs that connected the ground floor to the first floor were once also made of wood. According to the current owners of the mill, the layout of the first floor had a corridor, a rest space, a toilet, and a barn. The roof was hipped, with wooden construction and covered with Roma tiles. The top ridge of the roof was made of stone and the roof eave stuck out about 40 cm from the contour of the building.

The building, at the time of documentation for this work, has been in very poor condition and is in danger of complete demolition due to significant damage to the retaining walls. This situation is due to on purpose damage caused during the recent war in Kosovo.

¹⁷⁴ Information obtained via e-mail from Ardita Rrahmani, MCYS
August 8, 2020

Fig. 138-140 Mill of Qelë Bicaj, Vrellë, Istog



MILL OF QELË BICAJ

Location: Vrellë, Istog

Coordinates: 42°46'24.7"N 20°24'02.8"E

Altitude: 502m

Year: XX

Current state: In use/restored

The Mill of Qelë Bicaj is located near the river "Burimi i Vrellës" in Vrellë of Istog and is one of the many mills that existed in this village known for the number of mills it had in the past. Its proximity to the water flow and the surrounding landscape, make it as one of the most special ones in this work.

It was built during the years 1930-1935¹⁷⁵, by the popular craftsmen for the Bicaj family, who had inherited the craft of the miller for generations.

The mill has a rectangular plan with dimensions of 8.40 m x 5.50 m and was originally built as a two-storey tower-mill. As in all other tower-mills, on the first floor was the grinding mechanism and the millers room, while the second floor was used for rest or sleeping purposes.¹⁷⁶ After the demolition of the second floor, the owners decided to turn it into a one-story structure; from the structure of the second floor there is only one side retaining wall left, which the owners have decided to leave as it is. The mill is built of natural river stones, horizontal wooden beams and lime mortar is used as a joint-

ing material. The corners of the retaining walls are made of hewn stone with dimensions significantly larger than the rest of the stones. The inner walls as well as the outer ones are not plastered.

The floor of the ground floor is made of compacted soil, while the ceiling construction is made of wooden beams and planks. As with all other mills, the grinding mechanism is entirely made of wood, and it appears that the old mechanism has been newly replaced. In the space for grinding, there are 2 millstones which have traditionally ground corn.¹⁷⁷

The entrance door of the mill is made of wood and, what makes it more particular, is the double arched portal made of stone. The first arch is made of monolithic stone with side corners. The second arch consists of four hewn stones. The wooden door leaf was replaced with a similar one dating from the last renovation in 2021. The windows are also made of wooden shutters, mainly with arched frames, in contrast to one window that has a rectangular monolithic stone frame. The roof has two slopes – an open gable roof, with wooden construction and covered with tiles, which were also replaced with new tiles in 2021. The roof wall plate is also made of wood and the roof eave extends approx. 15 cm out of contour.

¹⁷⁵ Information obtained via e-mail from Ardita Rrahmani, MCYS

¹⁷⁷ Talk with Xhevat Bicaj, the current mill owner/inheriter of the Mill of Qelë Bicaj, October 17, 2020

¹⁷⁶ Talk with Xhevat Bicaj

Fig. 141-143 Mill of Ali Bel Bicaj,
Vrellë, Istog



MILL OF ALI BEL BICAJ

Location: Vrellë, Istog

Coordinates: 42°46'22.8"N 20°24'01.8"E

Altitude: 498m

Year: XIX

Current state: Restored

Ali Bel Bicaj Tower is located in the village of Vrellë in Istog, exactly on the road called "Rruga e Mullinjëve" (Eng.: Mills Street). Along with the Qelë Bicaj Mill, they are the only ones left from the many mills that existed on this road. Built in the 19th century¹⁷⁸, just beneath the mountains, the mill is of the tower type and has 2 floors. The ground floor, as in all cases, was used to grind grain, while the second floor was used as a guest house for travelers coming from more distant places to grind. In a certain period of time, it was also used by the owners of the mill for housing purposes.

The building has rectangular plan and has dimensions 10.40 m x 6.40 m. The tower-mill is built with the rustic technique, so the main materials are natural river stones, wooden horizontal beams that serve as a constructive element and lime mortar as a jointing material. The corners of the building, the arch of the mill and the frames of the openings in the façades are made of hewn stones. The door is made of wood, while other door elements such as hinges, locks,

nails, or latches are made of iron. The door has an arched portal built of hewn stones, with a width of stones that starts about 30 cm in the arched part and goes up to 40 cm to the stones placed in the side part. The ground floor windows have double arched stone frames, while the upper floor windows have larger dimensions, single arched stone frames and without side frames. The mill also has some turrets that have served for observation. The pyramid hip roof of the mill has a relatively large slope, made of wooden construction, and covered with Roma roof tiles. The roof has completely new elements following the restorations it underwent in 2013.¹⁷⁹ Some roof elements, such as the gutters, do not correspond to the original architecture that buildings had in the past.

The interior of the mill space consisted of the grinding mechanism – the hopper where corn was thrown, 2 millstones that ground the grains, a wooden box (Alb.: Arka) where the ground flour was thrown as well as other necessary elements, although today none of these is in their place. Unlike other mills of this size, this one does not have a miller room on the ground floor. There is only the fireplace made of stone in the method of popular craftsmen which goes up to the first floor. The walls are unplastered or white-washed, and the floor is made of boards. The

¹⁷⁸ <https://dtk.rks-gov.net/Objekti?heritageId=8008>
(Retrieved June 18, 2020)

¹⁷⁹ <https://www.facebook.com/CHwB-Kosova>
(Retrieved July 3, 2020)

ground floor is connected to the first one through straight wooden stairs. Also, the first-floor construction is completely with new elements, but without changes to the old construction, and it is made of planks and wooden beams. Since the space is large, the floor beams are reinforced by a wooden pillar with dimensions 25 cm x 25 cm.

From the burning and damage caused by the war, all that was left were only the outer walls.¹⁸⁰ The upper floor is completely rebuilt; it has a corridor, two rooms and a bathroom. After restoration/reconstruction, the mill can work again as in the past, however, so far it has not been working.



Fig. 144 The wooden construction of the first floor, Mill of Ali Bel Bicaĵ

MILL OF REXHEP SHATRI

Location: Kushnin, Pizren

Coordinates: 42°17'05.8"N 20°33'26.9"E

Altitude: 321m

Year: XIX

Current state: In use/Restored

Rexhep Shatri's Mill or "Kushnin's Mill" as it is known by local people, is located nearby the main road that connects the villages of Kushnin and Dedaj, in the municipality of Prizren. It is currently under the ownership and supervision of the Shatri family, but the only one who continues to care and work there is Selman Shatri, an old man in his 80s. According to him, he is the 5th generation in the family that has inherited miller's craft.¹⁸¹

According to the owners' information, this mill had existed as early as 300 years ago and was originally owned by another family. Due to various natural damages but also its age, only the foundations have remained from the mill that was built 300 years ago. On those foundations, in 1940, new walls were built by the Shatri family¹⁸² and thus preserving its geometric shape and without deviating from the building materials that were used to build the original building. In 2017, the restoration works were carried out once again, which enabled the mill to preserve its architectural values and be fully

functional.¹⁸³

The mill building has a rectangular shape with dimensions of 11.33 m x 6.18 m and the height of the walls is 205 cm. The walls are built of hewn stones, jointed with mud mortar and straw. The arch of the mill is also built of hewn stones which are thinner in size compared to the stones used to build the walls. Its inner space initially consisted only of a space where the grinding mechanism was located, and after 1940 the miller room was added. Inside the miller room, there is also a fireplace, as it is with the most of other mills in Kosovo. Openings in the facade – doors and windows – are rectangular in shape and with wooden frames. The windows have relatively small dimensions, while the entrance door that is located on the front facade is a double-leaf door with panels, frames and architraves made of wood. The dimensions of the main door are W1.65 m x H1.80 m.

From the inside, as from the outside, the walls of the mill are not plastered. The inside floor is partially paved with unprocessed planks and the rest is with compacted soil. The grinding mechanism is also made out of original stone elements, metal, and wood elements, but, unlike the usual ones, the part of the hopper is made more carefully, and geometric shapes are carved into it which seem to be rather decorative than with cult

¹⁸³ Information obtained via e-mail from Ardita Rrahmani, MCYS

¹⁸¹ Talk with Selman Shatri, inheriter of the Mill of Rexhep Shatri, October 2, 2020

¹⁸² Information obtained via e-mail from Ardita Rrahmani, MCYS

¹⁸⁴ <https://www.koha.net/kosove/211512/mulliri-i-vjeter-mbi-400-vjecar-i-fshatit-dedaj/>
(Retrieved October 3, 2020)

symbolism.

The roof of the mill is of the standard hipped roof type and what makes it more special is its covering made of thin stone slabs which were also replaced with new ones following the last renovation.

The function of the mill is enabled by the water that flows from the spring below Mount

Pashtrik, more precisely, the mill is located at the end of the mouth of the stream of two founts – that of the village of Kushnin and Kabash. This flow of water passes through the troughs of the mill to set its wheels in motion and then flows into the Drini i Bardhë River. The mill is still functional and can grind up to 200 kg of flour per day.¹⁸⁴



Fig. 145 Mill of Rexhep Shatri
The rear side of the building,
mill arches and chutes



Fig. 146-148 Mill of Rexhep Shatri,
Kushnin, Prizren

Fig. 149-151 Mill of Sallaj Family, Junik



MILL OF SALLAJ FAMILY

Location: Junik, Junik

Coordinates: 42°28'20.5"N 20°16'35.6"E

Altitude: 539 m

Year: XIX

Current state: Restored/In use

The mill of the Sallaj family is located in Junik, near the Erenik River, where along its stream, many other villagers had also set up mills to grind the grain they had collected. This mill was built in the 19th century by popular craftsmen with the investment of the Sallaj family¹⁸⁵, who today is under their care and keep alive this old technique of grain processing.

The upper side of the mill and has a height of almost 5 m. From here, the water enters the wooden trough of the mill which puts its bladed wheel into operation. The wheel was also originally made of wood.

The mill has only one storey and is built with the same techniques as the towers of the region. The dimensions of the mill building are 6.7 m x 5.4 m. The walls are built with river stones taken from the Erenik River and then carefully processed by the popular craftsman.¹⁸⁶ Special importance is given to the processing of the stones placed in the corners of the building and around the doors and windows. The stones are jointed to each other with lime mortar and reinforced

with horizontal beams made of chestnut wood. This makes the mill look even more rustic and typical for the area. However, in the recent years the facade of the mill has been partially painted with white colour, thus slightly deviating from the authenticity that characterized it. The windows have small dimensions and wooden frames. Also, the door was originally made of wood, but today it is made of metal and therefore not authentic.

The interior area consists of two interior spaces: the space where the grinding mechanism is placed and a small room for the miller. The internal walls are not plastered, the floor is made of planks and the roof construction is visible from its interior space. Chestnut wood has also been used for the construction of the roof, while the whole construction was covered with basic Marseille tiles. The roof is of the standard hipped roof type.

The mill grinds only corn and its capacity in the best days reached somewhere around 300 kg of ground corn in one day. The miller had its own share (Alb.: *ujem*) for the work he did and was usually not compensated with money but with flour.¹⁸⁷ The corn grinding *ujem*, which the miller receives for each load, consists of a *shinik* (Eng.: bushel). The mill is still active today, but the demand for grinding is not the same as in the past.

¹⁸⁵ Talk with Demë Sallaj, the current mill owner/inheriter of the Mill of Sallaj Family, September 27, 2020

¹⁸⁷ Information obtained from Osman Gojani, Regional Centre for Cultural Heritage Gjakova, April 7, 2022

¹⁸⁶ Talk with Demë Sallaj



Fig. 152-154 Mill of Mulliq Village,
Mulliq, Gjakova

MILL OF MULLIQ VILLAGE

Location: Mulliq, Gjakova

Coordinates: 42°26'27.7"N 20°16'10.3"E

Altitude: 473 m

Year: XIX

Current state: Not in use/In good condition

According to the villagers, the Mill of Mulliq Village has existed in the same location for almost 500 years. But, in its current state, as we can now see, it was built at the end of the 19th century.¹⁸⁸ However, to keep it in operation, interventions in different parts have been done recently by the villagers and those who had the mill under their care. Of course, these interventions that were carried out by incompetent persons have caused the mill to not keep its full original appearance. Since its very existence, this mill was built using primitive construction techniques and with selected wood from nearby areas in order to avoid transportation problems. Due to the higher durability compared to other types of wood that were nearby, the entire mill was built from chestnut wood.¹⁸⁹ At first glance, this mill resembles a small and typical Balkan wooden hut; conceived as a single space, where the grinding mechanism is placed. The external dimensions of the mill are 2.70 m x 3.65 m.

Apart from the entrance door, there is no

other opening in the facade. The construction of its body consists of not very thick wooden pillars, while the walls are made of horizontally placed planks surrounding the mill from all sides. In its longitudinal part, the wall is reinforced with diagonally placed beams. The light enters the mill through the door and the holes created between these thin planks that create the walls of the mill. The floor is also made of the same material. The beams of the roof are somewhat thicker compared to the wooden pillars and currently are covered by Marseille tiles, which replaced the original Roma tiles which was used back then. The roof is of the open gable roof type.

Under the wooden floor there is the metallic waterwheel, which was originally made of wood. Even the trough that is made of chestnut wood, due to decay, was removed and a new concrete trough was created in 2019.¹⁹⁰ The water flow that brings the water to its trough comes from the water sources in the village of Vrellë. According to the residents, due to its geographical position, this mill had enough water for grinding throughout the year and thus served the needs of many nearby villagers.

The mill owned by the village has all the preconditions and can still be put into operation, but, due to insufficient care and interest it has been inactive for several years.

¹⁸⁸ <https://dtk.rks-gov.net/Objekti?heritageId=4624>
(Retrieved June 18, 2020)

¹⁹⁰ Talk with Hamëz Bajram Mulliqi, an old villager of Mulliq, September 27, 2020

¹⁸⁹ Talk with Hamëz Bajram Mulliqi

Fig. 155-157 Mill of Tahirsadriaj Family, Isniq, Deçan



MILL OF TAHIRSADRIAJ FAMILY

Location: Isniq, Deçan

Coordinates: 42°33'16.8"N 20°17'59.6"E

Altitude: 590 m

Year: XIX

Current state: Restored

According to the current heirs, the Tahirsadriaj's mill is thought to be around 300 years old¹⁹¹, but controversially, based on written facts this mill was built at the end of the 19th century. Since its existence and until now, the mill is owned by the same family – the Dervishaj family, otherwise known as the Tahirsadriaj family.¹⁹²

This mill is built at the entrance to the village of Isniq in Deçan and for many years it has served the needs of the residents of this area. In addition to this one, there were several other mills in this village, but they were less important than Tahirsadriaj's Mill in terms of their function and age.¹⁹³ Based on the positioning in relation to the water flow, this mill belongs to the category of mills located far from the water flow. So, the mill is supplied with water from a water pond that is located relatively far from it, and for this reason it was necessary to create a water dam that enabled the bringing of sufficient amount of water that was then introduced into the wooden chutes and set in motion the two wheels. Initially, this water dam was

created with a primitive construction method, while later it was walled with stones. Also, the authentic wooden chutes have now been replaced by metal ones, which do not belong to the traditional way of their construction. The water that passed through this water dam was also used to irrigate the agricultural lands of Isniq and some nearby villages.¹⁹⁴

In terms of its architecture, this mill underwent several interventions over the years, but presumably without causing any excessive dulling of its original architecture. The mill building is conceived as a one-story building and has dimensions of 6.6 m x 8.0 m. Its walls are built with river stones taken from the Lumbardhi River, which are connected with lime mortar, while the horizontal reinforcements are made of chestnut wood taken from the mountains nearby the village of Isniq. The roof belongs to the cross hipped roof type, wooden construction and is covered with traditional tiles. Also, the original mill door and window sashes were made of chestnut wood that is a characteristic for this area. The door has an arched frame made of hewn stones, while the windows have very small dimensions, made of stone frames and which serve to ventilate the interior. In addition to having served for protection, the turrets were positioned in such a way that the water dam could be ob-

¹⁹⁴ Talk with Rustem Dervishaj, the current mill owner/inheriter of the Mill of Tahirsadriaj Family, November 27, 2020

¹⁹¹ <https://www.youtube.com/watch?v=fit106RFDMw> (Retrieved October 2, 2020)

¹⁹² Information obtained via e-mail from Ardita Rrahmani, MCYS

¹⁹³ <https://www.youtube.com/watch?v=fit106RFDMw> (Retrieved October 2, 2020)

Fig. 158 Side view of Mill of Tahirsadriaj Family, Isniq, Deçan

¹⁹⁵ Talk with Krustem Dervishaj

served from the inside and the miller could check if something could obstruct the water flow and hinder the grinding process. Inside the mill, in addition to the main space where the grinding mechanism is located, there is also the miller's room, which in certain cases also served as a waiting room. In this room, there is also a hearth that served

for heating the environment during the cold weather. The walls from the inside are plastered, while the floor is made of logs. The mill has two grinding stones which are functional and active even today. According to the current owner, during their best days, these stones together ground up to 2000 kg of corn within 24 hours.¹⁹⁵



MILL OF SHABANAJ FAMILY

Location: Dečan, Dečan

Coordinates: 42°32'22.1"N 20°17'20.2"E

Altitude: 611 m

Year: XIX

Current state: Restored

The Mill of Shabanaj Family is located in the center of the city of Dečan and is considered to have been one of the oldest buildings in the city. Built in the 19th century by popular local craftsmen, the mill is the property of the Cacaj family. The mill building was originally built entirely of wood, but due to thefts and lack of security, it was later rebuilt with stone and in the style of Dukagjini tower houses.¹⁹⁶ The used stones are a combination of hewn and unhewn stones, depending on the position of the building element. The two arches, under which passes the water that sets mill's wheel in motion, are carefully crafted with hewn stones. It has a rectangular plan and only one interior space where there are two grinding mechanisms. On the front facade, the windows have small dimensions and have arched stone frames, while the dimensions of the rectangular windows on the side facade along the street are larger than those of other mills built in the same style and with the same techniques. Importance has also been given to the construction of the portal of the

entrance door. The door has an arched portal with side corners and all made of hewn stones. The door leaf, which doesn't seem to be very old and traditional, is also carefully crafted with wood. The building has a standard hipped roof, restored recently, and covered with Marseille tiles. However, the existing building of the Shabanaj mill is a reconstruction carried out in 2005, since the original building was relatively destroyed in the last Kosovo war.¹⁹⁷

At the time it was built and throughout the 20th century, this mill served the needs of the citizens of Dečan and the surrounding towns and villages. However, its importance goes beyond the primary function of grinding grains. Given the position it had, during the time it was in operation, it also served as a place where the elders of the districts of Dečan district used to hang out and meet, and it even served as a resting place for many important national figures of the 20th century.¹⁹⁸ Now, it is used as a community center and mainly serves for various exhibitions, with an emphasis on the display of traditional handicrafts of the Dukagjin area. This reconstruction has somewhat faded its architectural values, but anyway, regarding the importance it has as a building of spiritual heritage over the centuries, it has been considered to be analyzed as part of this research.

¹⁹⁷ <https://dtk.rks-gov.net/Objekti?heritageId=4690>
(Retrieved June 18, 2020)

¹⁹⁶ Information obtained from Regional Centre for Cultural Heritage Peja, April 7, 2022

¹⁹⁸ <https://www.kultplus.com/trashegimia/mulliri-i-shabanajve-i-mbijetoj-tre-lufertave-por-sot-perballet-me-betejen-kunder-asfaltit/>

Fig. 159-160 Mill of Shabanaj Family,
Deçan



OLD MILL OF BANJA

Location: Banja, Malisheva

Coordinates: 42°28'08.2"N 20°46'02.0"E

Altitude: 536 m

Year: XIX

Current state: Restored

Located in the village of Banja in Malisheva, the Old Mill of Banja is among the largest (in terms of size) single-storey mills analysed in this research paper. By residents of this village, it is also known as the mill of Begaj Family – and this according to the name of the family that owned this mill. The exact year of construction of this mill is not known, some assume that the mill has existed in that place for more than 300 years¹⁹⁹, but the building we see today is thought to date back to late 19th century. However, due to damage that occurred during the war in Kosovo, this mill was subject of restoration process that began in 2012 and lasted for several years.²⁰⁰

In terms of architecture, the Old Mill of Banja is a rectangular building with dimensions of 11.9 m x 4.4 m, with stone walls and stone slates connected with mortar and reinforced with horizontal wooden beams. Although the stones are hewn stones, they all have different dimensions. The characteristic of this mill is the stone shelter of the roof that comes out about 40 cm from the

contour of the plan and make it somehow more remarkable.

The building has an open gable roof, which is covered with stone slates that are characteristic of the area of Malisheva and other nearby places. These stone slates are natural material that is taken from the rocky ground, mainly in the vicinity of the city of Klina (a neighbouring town of Malisheva), which is known for the processing of stone slates that are well-known all-over Kosovo. Also, the chimney that rises above the roof is made of stones and stone slates, while not damaging the appearance of the mill aesthetically. The entrance door is located almost in the middle of the front wall of the building; it is completely made of wooden frames, architrave and panel/leaf and perceived as a single door, is quite wide (140 cm) and apparent.

On the inside of the building there are two separate spaces – the main space where the grinding mechanisms are placed and another one where the millers room was located. In this particular case, unlike in other mills, both millstones are placed inside a “box” made of concrete, and both have concrete lower hoppers and supposedly wooden upper hoppers. Although, the concrete part must have been completed recently, however, it cannot be said for sure how this element was done previously.

¹⁹⁹ <https://www.online-transparency.org/repository/docs/PZHK-Malisheve.pdf>
(Retrieved October 4, 2022)

²⁰⁰ <https://dtk.rks-gov.net/Objekti?heritageId=9485>
(Retrieved June 18, 2020)

²⁰¹ Talk with Nazif Begaj, old local resident of Banja village, October 4, 2020

As for the miller's room, it is relatively large if we compare it with the same spaces of other mills. In terms of the current state of the mill, the physical separation almost does not exist except for the wooden skeleton/construction that was supposed to support the partition wall between these two spaces. Some of the pillars and beams of this construction seem to be old and handcrafted – and the same applies to the beams and the main part of the roof construction. Inside the miller's room, in its central wall, there is also a fireplace made of stone and designed in such a way that it protrudes a little outside the wall and in its upper part it has an arc shape. The fireplace was used to heat the space where the miller rested, and the same often served as a waiting room when the queues for grinding were longer.²⁰¹

The entire interior space of the mill has only two small openings: one is very close to the entrance door and is supposed to observe who enters the mill and to ventilate and illuminate the space where it is milled, while the other is right next to the fireplace in the miller's room. These two windows of the mill used to have wooden sashes, but now they only have newly made wooden frames. The floor is paved with compacted soil and only a small part is paved with planks. During the time it was in operation, the mill grinded using the water coming from the Banja River, but now, despite the physical possibilities and geographical position to reactivate the primary function or to be used for any other function, the mill continues to be without life and function.



Fig. 161 Rear view of the Old Mill of Banja, Banja, Malisheva



Fig. 162-164 Old Mill of Banja, Banja, Malisheva

Fig. 165-167 Mill of Zenel Islami, Pa-
garushë, Malisheva



MILL OF ZENEL ISLAMI

Location: Pagarushë, Malisheva

Coordinates: 42°25'05.9"N 20°45'47.2"E

Altitude: 462 m

Year: XIX

Current state: Restored

The Mill of Zenel Islami, located in the village of Pagarushë in Malisheva/Malishevo, is located in the middle of a natural flat environment, surrounded by trees and near the flow of the Pagarusha River. The mill building is thought to have existed in the same place hundreds of years earlier (since the 19th century), however, as such, in the form and architectural composition of today it was built in 1938.²⁰² Until this year, the mill was a one-storey building, had only an interior space and only one mechanism for grinding. In 1938, when it was bought by the family of Zenel Islami, the old mill was completely demolished (it cannot be said if anything of the old building was left) and a new mill was built. The new mill building has two storeys and two grinding mechanisms. The mill has also a courtyard surrounded by low stone walls and, right next to its entrance, once there was an annex that served as a workshop used by the owners. Unfortunately, only a part of the walls has remained from this workshop.²⁰³ According to the current owner of the mill,

Mr. Halil Zeneli, the mill was built by craftsmen from Dibra, known for their skill in erecting tower houses and similar buildings. The Mill of Zenel Islami has a rectangular shape, with dimensions that are around 4.35 m x 2.75 m, walls built from locally hewn stones, jointed with lime mortar and has visible joints on its facade. These joints are made of cement and do not belong to the typical building materials used for this construction typology. Built with the same methods as tower houses, the architecture of this building is not typical for this area of Kosovo. As in the Albanian “kulla”, the windows have small dimensions, while the entrance door has been given more importance in terms of design. The entrance door is located on the southeast facade; it has an arched vault made of hewn stones and suitable dimensions as the main door. The wooden door frames are connected to the facade walls from the inside and are invisible from the outside. The door panel is also made of vertically placed wooden planks. Inside the mill, on the ground floor, there are two grinding mechanisms and other mill conveying equipment made out of wood. The stones that grind the grain are brought from the village of Boletin, while the mill wheel is set in motion by the water that comes from the Pagarusha River, which is located nearby it.²⁰⁴ In the ground floor, there is

²⁰² Information obtained via e-mail from Ardita Rrahmani, MCYS

²⁰³ Talk with Halil Zeneli, inheritor of the Mill of Zenel Islami, October 4, 2020

²⁰⁴ Talk with Halil Zeneli

²⁰⁵Talk with Halil Zeneli

also a restroom, which is not very common for mill buildings. On the right side of this space, there are wooden stairs that lead to the first floor/upper floor of the building. The height of the ground floor is about 2.35 m, while the construction that separates the two floors is made of horizontally placed beams and wooden planks. The first floor is higher compared to the groundfloor; the height of the floor, if we count it from the floor to the beam of the roof construction, is about 3.18 m.

²⁰⁶Talk with Halil Zeneli

On the upper floor there is a hallway, a room with a fireplace, and a restroom. There are two window openings for the internal lighting, one is in the hallway and the other in the guestroom.

This guestroom served as a waiting room for those who came to grind from long distances and had to spend the night in the mill.²⁰⁵ The internal walls of this floor are partially plastered and partially bare – as seen on the external walls of the building. The mill has a standard hipped roof with a roof construction made of wood and covered with stone slabs.

The restoration of this mill was completed in 2022 and efforts have been made to preserve as much of its authentic form as possible. However, regarding this, there is always room for discussion. Since the 90s, the mill is no longer functional and now after restoration it serves as a mill-museum.²⁰⁶



Fig. 168 Side view of Mill of Zenel Islami, Pagarushë, Malisheva

COMPLEX OF HAXHI ZEKA MILL

Location: Peja, Peja

Coordinates: 42°39'46.6"N 20°18'00.4"E

Altitude: 503 m

Year: XIX

Current state: Restored

The mill of Haxhi Zeka is very different from the other mills analyzed in this paper in several aspects, it cannot even be included in the same category as the others and in its current state it cannot even serve as a comparative example with the others. However, as it stood out within these buildings with the same function but with a different concept, it is important for this research to make a description, however superficial, of this mill, which is an emblem of the beginning of the country's industrialization.

The Haxhi Zeka's mill is part of an architectural ensemble that, in addition to it, also included five other buildings located on a plot that once had 47 acres of land.²⁰⁷ Part of the complex were the mill – as the main building in the complex's composition, the two-storey tower house, the guest house, the mill warehouse, the barn, and the horse stable.²⁰⁸

This mill differs from the other mills of this research, both in terms of the constructive-architectural conception and in the way of operation. The dimensions of this mill

and the principles on which this mill was built are different from other mills built with primitive methods or by popular craftsmen. So, this mill does not fully represent what this research aims at. However, its importance is special; not only does it represent the first industrial facility in Kosovo, but it is also a clear indicator of the level of technical and technological development of the mills built in Western Europe at that time. For the needs of this research, it serves as a worthy comparative example between vernacular and developed European architecture reflected in buildings built in the same time periods and intended for the same purposes.

The Haxhi Zeka Mill complex was built in the second half of 19th century by the patriot Haxhi Zeka and is conceived as a contemporary urban whole. Positioned in the central part of the city of Peja, near the old market, it is the first mill of this size and the only one with vertical wheels. The grinding mechanism, which first worked with water and then with electricity, was imported from Austria-Hungary.²⁰⁹ The western influences in terms of elements from the Austro-Hungarian Kingdom are also visible in the architecture of the mill and other buildings of the complex. So, unlike other mills, the architecture of this mill represents a synthesis of western, eastern, and local influences.

²⁰⁷ <https://www.arbresh.info/arbresh-story/historia-dhe-transformimi-i-mullirit-te-haxhi-zekes/>
(Retrieved October 17, 2022)

²⁰⁹ <https://dtk.rks-gov.net/Objekti?heritageId=10>
(Retrieved October 17, 2022)

²⁰⁸ <https://dtk.rks-gov.net/Objekti?heritageId=10>
(Retrieved October 17, 2022)

²⁰⁹ <https://www.arbresh.info/arbresh-story/historia-dhe-transformimi-i-mullirit-te-haxhi-zekes/>
(Retrieved October 17, 2022)

²¹⁰ <https://triptoalbania.al/mulliri-haxhi-zeka-aset-i-trashegimise-kulturore-ne-peje/>
(Retrieved October 17, 2022)

²¹¹ <https://dtk.rks-gov.net/Objekti?heritageId=10>
(Retrieved October 17, 2022)

Even the materials and constructive elements used are not complementary to those mentioned in the main part of this research. The mill has three storeys, rectangular plan, and harmonic rhythm and structural regularity in its facade. The materials used for its construction are unhewn river stone, bricks, mortar, lime, and wood. The construction of the floor and the roof are made of wood, while the roof is covered with traditional tiles. The doors and windows were arched and with architrave, and some of the windows even had circular openings and metal railings. The dimensions of the openings are large enough and thus enabling sufficient lighting and ventilation for the interior environment.

The mill has been intervened several times and, as an architectural whole, the complex is quite different from its original state. Of the six buildings that were part of the complex, the only remaining structures are the mill and the barn located in the northern part of the mill. These two buildings were once connected to each other through gates with the help of a wooden bridge on the upper floor.

The mill was in operation until the 60s, and from that period it served as a public kitchen for school students and then it turned into a bakery factory.

In 1977, the mill was put under the protection of the state as a historical monument and the first intervention that was made in the mill, since its construction, was in the 80s. The mill was burned by the Serbs once in 1994 and then again in 1998²⁰⁹. A few years after the Kosovo War, in 2004, the mill was partly restored²¹⁰ and than completely restored in 2014, while in 2015 the part of the barn was repaired. The ground floor and two facades are the only remaining original structures of the barn building²¹¹.

From all these interventions, the grinding mechanism of the mill has managed to be partially preserved, including the main element of the mechanism which is the vertical water wheel.

The mill of Haxhi Zeka used to perform grain grinding and flour production services for the entire region, while today, apart from serving as a museum open to everyone, it is also the home of several local NGOs.



Fig. 169 Close-up image of facade details of Haxhi Zeka Mill, Peja, Peja



Fig. 170-174 Complex of Haxhi Zeka Mill, Peja, Peja

MILLS IN THE EASTERN REGION OF KOSOVO

The Eastern Region of Kosovo includes all other cities of Kosovo that are not part of the Dukagjin Plain. Compared to the Dukagjin Plain, the Eastern Region is rather more closed and less attractive as a space; however, in terms of water flows and their connectedness with important rivers of neighbouring countries, it has a very strategic position.²¹³ The population density in this part of Kosovo has always been higher²¹⁴ and in turn the number of mills has corresponded to that of residents. As an illustration, what we know based on some records, there were about fifty-six mills in the course of the Nerodime River alone²¹⁵, about twenty-six in Gjilan²¹⁶, about nineteen in the city of Mitrovica²¹⁷, about fifty mills in the village of Majac²¹⁸ and many others for which there are no notes to refer to. In cities such as Prishtina, Mitrovica, Gjilani, Ferizaji and Vushtrri there used to be large mills with a large grinding capacity. However, today, only a symbolic number of them is in operation. The large mills of that time positioned in urban areas have remained only a myth, while the majority of those mills that have resisted time are non-functional. Nevertheless, the mills of this part of Kosovo documented in this paper are mostly one-story mills, built with stone, wooden beams and lime mortar. Yet, there are not few cases when the popular craftsmen have experimented with other construction materials and techniques or have adapted to what the place where they built has offered. Since this region includes different parts of Kosovo, distinctive features of mill buildings can be observed depending on which part of the region they are built.

²¹³ Çavolli, 1997, pp. 9-12

²¹⁴ Bytyqi, 2015, pp. 61-63

²¹⁵ <https://archive.koha.net/?id=1&d=108710>
(Retrieved June 23, 2021)

²¹⁶ <https://mediafokus.info/gjilani-si-regjion-bujqesor-kishte-numer-te-madh-te-mullinjve-disa-me-ortakerite-perzier/>
(Retrieved June 23, 2021)

²¹⁷ Doli, 1993, p.84

²¹⁸ <https://www.kosova-sot.info/la-jme/12034/>
(Retrieved June 23, 2021)

Fig. 175-177 The Great Mill, Nerodime,
Ferizaj



THE GREAT MILL

Location: Nerodime, Ferizaj

Coordinates:

Altitude:

Year: XVIII

Current state:

The Great Mill is only one of the 56 mills that are thought to have been located along the course of the Nerodime River, in the Ferizaj district alone. It was built in the 70s of 18th century and was one of the most famous mills in the Ferizaj area due to the large number of wheels for grinding corn.²¹⁹ This mill is also one of the mills with the largest number of waterwheels documented in this work. Due to the capacities it had, it served the needs of many settlements in the vicinity of Ferizaj; yet, the queues for grinding were long and the wait time sometimes lasted for days.²²⁰ According to Rrahim Kashtanjeva, the mill was bought by his grandfather Hamdi Avdyl Kashtanjeva from a Turkish family in 1912 and it worked until 1989/90, when it was burned down by the Serbian army on New Year's Eve 1992.²²¹ Located near the Nerodime bifurcation, very close to Nika's Mill, now only parts of the former building have remained, which have been conserved and are open to all those interested. During the 90s, the roof of this mill had fallen and gradually also parts

of the wall were demolished. In fact, the most destroyed part of the mill is its southern side, where only the foundation of the wall can be distinguished from the extensive surrounding vegetation.

The three walls on the other sides are better preserved, somewhere up to the third horizontal beam (Alb.: hatulla). On the wall of the northern facade of the mill was a large chimney, made of pumice stone and about 4.25 m high, which did not suffer any major damage. In this space, near the fireplace, there was a waiting room. But, due to the long queues, this mill, in addition to the space where the corn was ground, it also had another room that served as a resting space for those who waited in line to grind, known in the Albanian language as "Kona-ku".²²²

From the remaining parts of the mill building, and based on photographs and other descriptions about it, it is assumed that the mill was built from stones of different sizes, mostly unhewn stones, jointed with lime mortar and reinforced with horizontal wooden beams. However, there are parts of walls that are made of pumice stones, easy to process, the same as the stones out of which the fireplace is made. Also, the crafts-

²¹⁹ Information obtained via e-mail from Ilir Bytyçi, Director of Regional Centre for Cultural Heritage Ferizaj, March 29, 2022

²²⁰ Information obtained via e-mail from Ilir Bytyçi

²²² Regional Centre for Cultural Heritage Gjilan, MCYS, File nr. 004160

²²¹ <https://kryelajmi.com/mulli-ri-madh-ne-ferizaj/> (Retrieved March 25, 2022)

men who built the mill paid importance to the selection of the stones used for the construction of the arches that raised the mill to the pedestal and supported its corpus. Based on old photographs of the mill, the roof was covered with traditional tiles, while the windows were rectangular, with architraves and wooden frames.

In relation to the water flow, the mill belongs to the mills located far from the water flow. So, the water was brought through the water dam to the mill chute and set its wheels in motion. Now the water flow is completely stopped, but the old dam is still there and adds value to the walls and the rest of the building.



Fig. 178 The Great Mill, view from 1972, Nerodime, Ferizaj

MILL AND BIFURCATION FACILITY

Location: Ferizaj

Coordinates: 42°22'19.1"N 21°08'01.4"E

Altitude: 580 m

Year: XVI

Current state: Restored

The Mill of Nika, located near the bifurcation of the Nerodime River, is believed to have been built during the time of the Ottoman Empire, namely 1321.²²³ It has been owned by the Kashtanjeva family since 1926, while the first owner, Nika, from whom the mill got its name, it is not remembered who it might have been.²²⁴

Since its construction until today, there have certainly been time after time interventions in the mill, but from what has been documented, it is known that the mill was restored three times: once before 1999, then in 2002 when the mill was rebuilt almost from the beginning and the last time was in 2012 when it was intervened in the spaces around it.²²⁵ Although an effort has been made so that the intervention does not risk the loss of the authenticity of the original building, to some extent it has still deviated from the traditional way of construction and even the building has undergone some changes in its size. In terms of the dimensions and shape of the plan, the current mill is the same as the original one, but in terms of height, the

original building was several meters lower. In terms of the materials used and the construction method, there are also some differences. The first building was built with unhewn stones of different sizes and connected with mud mortar, while two horizontal beams served as structural reinforcing elements. Whilst today, the stones are placed in a more regular way and connected with concrete, which does not correspond to the traditional method used by popular craftsmen. The positioning of openings, windows and doors has remained the same. Also, their dimensions are the same dimensions as before – small and insufficient to provide adequate lighting, while the frame and shutters are made of wood. The door also has a wooden frame and two wooden door panels.

Inside the mill, in addition to the space where four grinding stones are placed, there is also the miller's room and a room corner that was once used for grain storage. The miller's room has 2 windows, one facing the outside and a very small window that allowed the miller to observe the situation inside the mill. In this room, there is also a fireplace.

In the distant past, immediately near the entrance and in the same space where the millstones were, there used to be a space that served to tie the horses of those cus-

²²³ Regional Centre for Cultural Heritage Gjilan, 2018, p.138

²²⁴ Talk with Ilir Bytyçi, Director of Regional Centre for Cultural Heritage Ferizaj, March 25, 2022

²²⁵ Regional Centre for Cultural Heritage Gjilan, 2018, p.138

Fig. 179 Back view of the mill - water dam, chutes and the mill arch, Mill of Nika, Ferizaj

tomers who were waiting for their turn to grind. This space has also deviated from its originality, as a brick counter has been built there and has occupied a visible surface in front of the entrance.

The walls from the inside are not plastered and the floor is made of wooden planks. Even the beams of the roof are visible, as in the past, but now the tiles are not placed directly on the beams as before since the roof

construction is pre-clad with planks.

The mill has been non-functional since 2011, it is part of a restaurant and serves as a kind of museum for customers. Also, the water flow has been stopped some meters away, thus making its operation impossible but also endangering the bifurcation phenomenon that occurs immediately near the mill and is a natural monument of Kosovo.





Fig. 180-182 Mill of Nika, Ferizaj

Fig. 183-185 Mill of Vishi Family, Binçë,
Viti



MILL OF VISHI FAMILY

Location: Binçë, Viti

Coordinates: 42°17'37.8"N 21°21'37.7"E

Altitude: 538 m

Year: XIX

Current state: Restored

The Mill of Vishi family is located south of Binçë village and near the course of the river that forms Morava River. To set the wheel in motion, the water from this stream passes through a water chute that is about 10 m long. According to the data, this mill was built at the beginning of the 19th century and, in addition to the part used for grinding grain, there is also another part that was used for wool processing.²²⁶ In fact, the mill and the *valanica* (Eng.: fulling mill) are next to each other, under the same roof, but they are two separate buildings that have a corpus made of different building materials. Between them there is another space, unilluminated, that may be used as a resting room by the miller.²²⁷ According to the current inheritors, the Bislmi family, Valanica once had a greater value than the mill for grinding grain, despite the fact that in this mill they could grind up to 1500 kg of grain in a day.²²⁸

The mill was built mainly with stones and wooden horizontal beams as structural elements, while the walls of the “dark”

space and the *valanica* were made of wooden columns and thick oak planks. Otherwise, the foundation of both buildings is constructed with river stones. As for the inner space of the mill, it has only a single and large space, and unlike in the past, where there were two millstones that were constantly grinding, currently there is only an inactive, recently restored grinding mechanism. In this space, specifically on its western wall, there is a fireplace and two closets, with a little room for sitting in front. The space has only one window, which is not sufficient for lighting or ventilation of the entire space. The entrance door is wide enough and has wooden frames and panels. Before the restoration, the floor of the mill was partly made of planks and partly made of soil, while after the restoration it was completely covered with planks. The room next to this space has two doors and is like a connecting space that connects the mill with *valanica*. This room, just as the *valanica*, has strong wooden walls, low height and it's quite dark and unventilated. On its three sides, the walls of *valanica* are made of planks, while the wall that separates *valanica* from this dark room, is made of drywall. Although after the restoration work of the last few years, opportunities have been created to re-functionalize both the mill and *valanica*, they are still non-functional.

²²⁶ Regional Centre for Cultural Heritage Gjilan, 2015, p.164

²²⁷ Regional Centre for Cultural Heritage Gjilan, 2015, p.164

²²⁸ <https://fb.watch/kGfkiHONO6/> (Retrieved April 7 2022)



Fig. 186-188 Mill of Frrok Dokiqi, Letnicë, Viti

MILL OF FRROK DOKIQI

Location: Letnicë, Viti

Coordinates: 42°17'25.9"N 21°27'11.8"E

Altitude: 630 m

Year: XVII

Current state: Restored

The Mill of Frrok Dokiqi, located in the village of Letnicë in Vitia, is a 17th century building. Nevertheless, according to the current owner, Frrok Dokiqi, this mill is older than 700 years.²²⁹ Of course, from the construction period until today, the mill has undergone changes due to time after time interventions, but still it has not deviated much from its originality.

Located very close to the Catholic Church of the Black Madonna, in a very picturesque environment, the mill is supplied with water that springs in mountains nearby and it belongs to the category of mills located next to the water flow. In terms of architecture, the mill is an one-storey building and has an L-shaped plan. Later, a small annex was added to the building, which was not part of the original mill building.²³⁰ Looked at from the south-west facade, the building gives the impression that it has two storeys, due to the unevenness of the ground where it is located and the high arch of the mill that raises its corpus several meters above the ground. The part of the arch and the walls that hold up the corpus of the mill are made of slight-

ly larger stones than the rest of the building, while the walls of the corpus are made of slightly smaller stones, reinforced with horizontal wooden beams, and connected with mortar. The windows are rectangular, have wooden frames and architraves and their dimensions are slightly bigger as those of other traditional mills. Its ceiling and its roof construction is entirely made of wood and covered with traditional tiles or as known Marseille tiles.

The interior space is a single room where the grinding mechanism is placed and it has a fireplace in front of the millstone. In the past, the rest of the space was used as a reception, grain and flour storage, and even as a space where the owners made their own bread. The fireplace, apart from being used to heat the space, was also used to bake the bread. The owner has done some interventions in the fireplace and thus affected its originality.

With the support of some serious international organizations, during the years 2018-2019, the mill of Frrok Dokiqi underwent the process of restoration and conservation of some of its elements to restore its function.²³¹ The mill now, apart from its primary function, serves as a mill-museum, where various tools and work tools that used to be used inside the premises of almost every mill are exhibited.

²²⁹ Regional Centre for Cultural Heritage Gjilan, MCYS, File nr. 002696

²³⁰ Talk with Karolina Dokiqi, daughter of Frrok Dokiqi, September 13, 2020

²³¹ OSCE Mission in Kosovo 2020, p. 4

Fig. 189-191 Twin Mill in Hogosht, Hogosht, Kamenica



TWIN MILL IN HOGOSHT

Location: Hogosht, Kamenica

Coordinates: 42°38'14.1"N 21°38'42.4"E

Altitude: 561 m

Year: 1950

Current state: Restored

Positioned near the “Qurreli” waterfall, in the village of Hogosht, there is the Twin Mill, otherwise known as Ahmeti’s Mill.²³²

Although the Twin Mill is the property of several families, it was mainly taken care of by the Ahmeti and Biçkaj families of Hogoshti, who had an inherited agreement for its use for decades, namely when one mill, the other must wait its turn.²³³ There used to be seven mills in this village, but today only this mill remains, which is not functional throughout the year due to the lack of water. Even though the river of Krivareka, from which this mill gets its water, never runs out, there is still not sufficient water for both wheels/stones of the mill.²³⁴

However, in the architectural sense, this mill is interesting for this research for two reasons: 1) it is one of the few twin mills in Kosovo, and 2) it has a shed roof, which is not characteristic of other documented mills. Nevertheless, it should be noted that the mill is considered to be hundreds of years old, but the building we see was rebuilt later (1981-82) and is newer than the other

mills in this paper.²³⁵ The methods and tools used when it was built were more advanced compared to the typical traditional mills built by the popular craftsman. Yet, some minor changes may have occurred even after its restoration in 2020.

The mill building is a one-storey building, conceived as two separate mills under a common roof. The walls are built with unhewn stones and in certain parts with slightly hewn stones and connected with mortar. The windows are very small and have wooden frames – one window for each room. The roof is made of a thin layer of concrete, which does not comply with the traditional construction method. Otherwise, the roof of the authentic building was made of other materials of the time when it was built.

The two interior spaces are almost a reflection of each other, each with a single space where the grinding mechanism is placed. Likewise, each space has its own fireplace. The entrance doors of both spaces/rooms have quite small dimensions and they do not exactly correspond to the optimal nowadays standard dimensions. In addition to wooden frames and panels, these entrance doors also have reinforcing horizontal wooden beams on both sides.

Today the mill is not functional, but due to its position, it has the potential to be considered a tourist attraction.

²³⁵ <https://www.youtube.com/watch?v=xX8rJgFWcac>
(Retrieved April 7, 2022)

²³² Regional Centre for Cultural Heritage Gjilan 2018, p. 135

²³³ <https://mediafokus.info/ne-cilini-fshat-te-anamoraves-gjendet-mulliri-binjak-2/>
(Retrieved April 7, 2022)

²³⁴ <https://www.youtube.com/watch?v=xX8rJgFWcac>
(Retrieved April 7, 2022)

Fig. 192-194 The Mill of Gentleman, Smrekonicë, Vushtri



THE MILL OF GENTLEMAN

Location: Smrekonicë, Vushtrri

Coordinates: 42°52'21.8"N 20°56'22.6"E

Altitude: 582 m

Year: XIX

Current state: Moderately destroyed

The Mill of Gentleman, located in the village of Smrekonicë in Vushtrri, is thought to be around 150 years old.²³⁶ This mill, in addition to its primary function of grinding grains, was also an important place and meeting point for many residents of this village and surrounding villages.²³⁷ Located in the middle of a field with several trees, the road that passed around the mill connected these villages and made it easily accessible for those who wanted to grind, or simply stop to meet and talk with fellow villagers. Mill of Hajrizi, known as the Mill of the “Gentleman”, got this name from its first owner Zejnullah “Begu” (see: title of nobility during the Ottoman rule, land owner or leader of a province), who was a very rich person of this side, and responsible for the entire village during the 19th century.²³⁸ After Kosovo became part of Yugoslavia, the Ottoman titles had no value, and together with them certain properties changed owners and mode of operation. In 1948, the mill was bought by the Mustafa family, who still own the mill today.²³⁹

The mill has two stones that grind corn and wheat, and both could work at the same time thanks to the large amount of water that came from a nearby streamlet and set the wheels of the mill in motion. These two stones have different sizes - the one that grinds wheat has a diameter of about 90 cm, while the one that grinds corn is smaller, its diameter is about 70 cm. Even the amount of water that enters the channel to set the wheels in motion is different, the channel that sets the larger stone in motion is wider and brings a larger amount of water, while the channel/water chute that sets the small stone in motion it is the opposite. In its prime, the two wheels could grind up to 100 kg of grain in an hour.²⁴⁰

Regarding its architecture, this mill is a rectangular building, with dimensions of 10m x 5.60m, built with stones connected with mortar and reinforced with horizontal wooden beams. The arch of the mill is built of pumice stone, hewn in a more precise way than the stones used for the rest of the building. According to the current owners, the mill still has preserved its original shape, beside for some very small interventions in the walls and in its roof covering. Due to the oldness, the old roof tiles have been completely replaced with Mediterranean tiles in 2002. The building has a standard hipped roof and the wooden beams that form its

²³⁶ <https://dtk.rks-gov.net/Objekti?heritageId=9846>
(Retrieved June 22, 2021)

²³⁷ Talk with Uruq Mustafa, inheriter of the Mill of Gentleman, September 25, 2020

²⁴⁰ Talk with Uruq Mustafa

²³⁸ Talk with Uruq Mustafa

²³⁹ https://www.youtube.com/watch?v=z_Q6HCS7zVo
(Retrieved April 8, 2022)

Fig. 195 The entrance door of “The Mill of Gentleman”, Smrekonicë, Vushtrri

construction are still the ones that were used when the mill was built many years ago. In 2002, the owners of the mill also made some interventions in the external walls of the building, thus removing the stones of their upper part and replacing them with new ones.²⁴¹ However, the wall located on its eastern facade is still quite damaged. Although not in good condition, in its inner space are placed two grinding mechanisms separated from each other. Once, this space also had a partition that was used as a miller's room. This space also had a fireplace and a small window facing the entrance of the mill to see who was entering the mill yard. As for the floor materials, both spaces were

partially covered with tiles and partially with compacted soil.

The entrance door is a single door and quite wide - about 135 cm, with wooden frames, architraves and panels. The windows also also have wooden frames; the window in the front facade is about 70 cm wide, while the one in the back facade is much smaller and serves to see if the water that sets the mill wheel in motion is coming in the right amount and there are no obstacles in the flow.

Since the last war in Kosovo, the mill is non-functional and doesn't serve any purpose.



²⁴¹<https://dtk.rks-gov.net/Objekti?heritageId=9846>
(Retrieved June 22, 2021)

MILL IN JASENOVIK

Location: Jasenovik, Novobërdë

Coordinates: 42°35'45.4"N 21°28'01.7"E

Altitude: 735 m

Year: XIX

Current state: Severely destroyed

The mill in Jasenovik, or as it is otherwise known as the Mill of Ćedomir Stojkovic, is located in the village of Jasenovik in Artana (Novobërda). Located to the left of the Jasenovik river valley, surrounded by trees and bushes, due to its walls built of somehow bolder stones, it is easily seen from the road that passes over it.

According to the residents of the village, this mill is thought to be about 100 years old; it may have been built at the end of the 19th century or at the beginning of the 20th century and it was owned by Ćedomir Stojković, from where it got its name.²⁴²

In the architectural sense, the building has a rectangular shape, with dimensions of 4.10m x 5.10m and there is only one inner space. The whole building has only one opening in the facade - that of the entrance door. The walls of the mill are built of stones of different sizes, unhewn, and with a slightly more noticeable color that goes into red. Larger stones were used in the corners of the walls and their shape indicates that they were also prepared more carefully than the

rest of the stones used for masonry. Also, the stones that have been used around the entrance door have more regular shapes and somehow larger dimensions. The bonding of the stones is made of mud mortar using a rustic/popular technique that with the age became barely visible and gives the impression that the stones are bonded with dry joints – without mortar. The thickness of the walls is approximately 50 cm.

The entrance door is made of wood - both the frame and the panel, except for the handle and some small metal parts. However, there is no special element that distinguishes it from other mill doors. It is about 95 cm wide and about 160 cm high.

Inside the mill, there is only one single space where the grinding mechanism is placed. What makes the interior of the mill to be distinguished is the fireplace placed in the southern wall of the space. This fireplace gives the impression that it is carved into the inside of the wall, while on the outside there is an arch made of pumice stones.

Apparently, the same space was used for both grinding and waiting. This room had no windows at all, which could be problematic in terms of lighting and ventilation of the space, especially during the time when the fireplace was used for heating. The floor is made of compacted soil, while the roof construction, which is bare and visible when

²⁴² Regional Centre for Cultural Heritage Gjiilan, MCYS, File No. 001035

Information obtained via e-mail
from Ardita Rrahmani, MCYS

inside the mill, is entirely made of wood and covered with Roma tiles. From what is left and can be seen, the roof seems to have been standard hipped roof.

The grinding mechanism, placed right in front of the entrance, is in a quite bad condition and almost completely destroyed. Although the mill in general is quite damaged, the most damaged parts of it are the roof - its construction and covering, as well as its wooden sloping channel where the

water used to pass. The water that enabled the operation of the mill came from a 500 m long damn which then entered the 7 m long sloping channel to set the mill wheel and the stone above it in motion.²⁴³ However as with many other mills, the Mill of Jasenovik has been abandoned and out of operation for years. Unfortunately, there is still not even minimal care from the owners or the relevant institutions.



Fig. 196 Close-up image of the roof construction and covering, Mill in Jasenovik, Jasenovik, Novobërdë



Fig. 197-199 Mill in Jasenovik, Jasenovik, Novobërdë

Fig. 200-202 Andrea's Mill, Ulpianë,
Graçanicë



MILL OF ANDREA - XHAFER KRASNIQI

Location: Ulpianë, Graçanicë

Coordinates: 42°35'58.8"N 21°10'12.0"E

Altitude: 576 m

Year: XIX

Current state: Not in use/moderately good condition

The Mill of Andrea, as it is known by most, is located in a flat field and very close to the archaeological site "Ulpiana". This mill was built sometime at the end of the 19th century and was owned by Andrea, from whom it got its name. In 1945, the mill was bought by Xhafer Krasniqi and is still owned by his family.²⁴⁴

In the architectural sense, this mill is a rectangular shaped, one-storey building which has an inner space that is approximately 46 m². What makes this mill stand out from the other mills in this work are the walls of its corpus that are built with a combination of different materials - partly built out of mud bricks (Alb.: qerpiq) and partly of unhewn stone. Its foundation walls and the arches of the mill are all made of stone. This also applies to the lower part of its corpus, which reaches a length of about 120cm (above the ground level). The the rest of the wall, up to the roof, is made of mud bricks. This intervention may have been a later intervention

in the architecture of this building as part of any renovation carried out by the owners themselves over the years. The mud bricks used for the walls have dimensions of 27/7/13 cm and the whole structure of the walls is reinforced with horizontal wooden beams that have a depths/legths of about 8/8 cm. The hand-crafted beams are placed in two rows with a 125 cm distance from one-other.

Similar to other mill building, the walls are 55 cm thick are constructive walls.

From the external facade, the brick walls are covered with a layer of plaster made from clay and straw. This material, created with primitive methods, has also been used for residential houses and other buildings built years ago by popular craftsmen or ordinary people. However, apart from the fact that the facade is an improvisation with cheap material, found in nature and easily accessible, it is important that it also had a protective role against moisture, temperature fluctuations and wind.

Inside the mill building, there is the grinding mechanism placed somewhere on the right of the entrance. The mechanism, although quite in a bad condition, is mostly made of wood. The millstone is not the largest, it has a diameter of about 60 cm.

The interior walls are not plastered, whereas the floor is partly made of planks and partially of compacted soil. In addition to the

²⁴⁴ Information obtained via e-mail from Ardita Rrahmani, MCYS

excluding the part of the arches and the foundation walls that support the corpus of the mill and are also built of stones

Information obtained via e-mail
from Ardita Rrahmani, MCYS

main space, there is a separate room used as the miller's room. This room was used by the miller to rest or even spend the night when the queues for grinding were long. Inside it there used to be a fireplace²⁴⁵, nevertheless now it is completely destroyed. The walls of this room are made only of thin wooden beams placed horizontally on top of each other, approximately every 20 cm, and the empty spaces between them are filled only with mud and straw. In addition to the door opening in these walls, this room also has a small window to observe the space inside the mill and another window located on the main wall, with a view from outside the building.

The main entrance door has wooden frames and used to have a wooden door panel, which is now completely removed. The windows are made of wooden frames, with metal bars in the middle and wooden shutters that opened from the inside.

The mill's roof, which is a standard hipped roof, has a construction made of wood and covered with Roma tiles. However, it is obvious that the roof cover may have been replaced in here and there with other new tiles.

Located very close to the Gračanica River, its operation was made possible by the water of this river through a dam made of unhewn stone. The mill is now non-functional and almost completely abandoned.



Fig. 203 Side view - Andrea's Mill,
Ulpianë, Gračanicë

MILL OF BIÇEC VILLAGE

Location: Biçec, Kaçanik

Coordinates: 42°15'08.6"N 21°13'01.5"E

Altitude: 553 m

Year: 1910

Current state: In poorly good condition

The mill of the Biçec village, although in terms of oldness, was built later than most of the mills in this work, but due to some characteristics related to the construction technique, the materials used, its size and position, make this mill be a good example to analyze in the sense of popular structures built in rural areas and built by ordinary people, without any crafts or specific knowledge in construction.

This mill, which dates back to 1910, was built by the residents of the village of Biçec and mostly to serve their needs. Due to the great demand for grinding in certain periods of time, sometimes it also served the residents of some surrounding villages.²⁴⁶

This mill has been grinding grain with for almost a century, but, unfortunately, now it is completely abandoned and in a not very good condition.

However, located somewhere in the middle of the bushes, in one of the many fields of this village, its walls are still standing, although in the absence of proper care for many years. The mill is conceived as an

one-storey building; it has an almost square floor plan and relatively small dimensions (5.15m x 4.70m). The volume of this structure is in harmony with the place where it is located and with the traditional architecture, typical of mills whose purpose was to supply flour to a not very large community of people. Apart from the space where the grinding mechanism is located, there is no other internal partition/space; in total the usable internal space is about 15.5m².

The mill building is a very simple structure, built with river stones, taken from the river that passes close to it and bonded with lime mortar. The stones that were used for the walls have different shapes and dimensions and no special technique or specific knowledge was used to construct the whole building. The walls, about 2m high and about 55 cm thick, are reinforced with horizontal beams, placed in a certain order - the first about 95 cm in height from the ground level, and the second about 90 cm higher than the first. The wooden beams are also hand-crafted and have widths/depths of about 8/8 cm. Both inside and outside the walls remain unplastered, while the floor is only made of compacted soil.

The entrance door is also made of wood—it has a wooden frame and hand-crafted wooden panel, although this also lacks some elements of its original form. Apart from

²⁴⁶ Talk with Kjani Sallahu, the head of the Biçec village, June 3, 2020

this door, this building has no windows or any other openings in the walls

The grinding mechanism is still the same one that was installed when the mill was built, although quite damaged and old. It was carefully made of wood, while its upper millstone has a diameter of about 70 cm. The mill wheel was set in motion by the water that came from a stream that brought water from the mountains of Sharr and enabled the rotation of the grinding stone.

Its roof is categorized as a standard hipped roof and its construction is made of wooden beams and planks, which, unfortunately, are pretty in danger of demolition.

The roof cover, in its original condition, was made of Roma tiles, but now it is improvised by the villagers with a cover made of scraps of sheet metal.

Although the main constructive elements are still able to maintain themselves and are a proof of the work and social organization of the community of this village, in the literal sense of maintenance and the possibility to be re-functionalized, this structure has a risk of permanent damage and loss of all the values it represents in the sense of an exemplary structure (within its own category) of the popular architecture of this area.



Fig. 204 Close-up image of the wall at Mill of Bişec Village, Bişec, Kaçanik



Fig. 205 - 207 Mill of Bişec Village,
Bişec, Kaçanik

Fig. 208-210 Mill of Gani Syła,
Kishnarekë, Drenas



MILL OF GANI SYLA

Location: Kishnarekë, Drenas

Coordinates: 42°33'03.9"N 20°53'12.3"E

Altitude: 629 m

Year: XIX

Current state: Restored

The mill of Gani Syla is one of the many mills that were located in the village of Kishnarekë in the municipality of Drenas and at the same time the only one that endured through time in this area. According to family members and in some written data, this mill is thought to have been erected in the 18th century (1725)²⁴⁷, however, some more reliable information considers it to have been built in the 19th century.²⁴⁸ It is the property of Syla family from which it got its name, namely Gani Syla, the first from the family that owned the mill and now generations later his descendants make use of it. It is one of the few mills built entirely with wood in Kosovo, and it is even the largest in the category of mills built with wood in this research paperwork.

This mill is an one-storey building with a rectangular plan and has dimensions of 6m x 3.9m. Although the mill has been restored, it still retains some building features that transmit architectural values. Raised on a unhewn stone foundation and bound with mud mortar, the walls of the mill are con-

structed of horizontally placed planks, posts and horizontal beams from oak wood taken from nearby. This mill becomes even more characteristic given that the building works were done using typical techniques and tools of the popular craftsman. The mill, in its authentic form, did not even have a single nail in the wall. The logs/planks were carved in a special shape, as if they were prefabricated; the logs are interlaced, pierced with a drill, and connected with cornel wood pegs. In some of the side reinforcements, there are special engravings, in the form of saw cuts, which could easily be turned into turret and were designed to protect against attacks, especially during bread crises.²⁴⁹ Inside the mill there are two separate spaces: the main space where the grinding mechanism is located and another room separated by a wall with planks and used as a waiting room or as the miller's room. This room has two openings/windows – one is oriented to the outside, while the other opening is located in the wall that separates the internal spaces and serves to observe the situation from the miller's room to the part where the grinding mechanism is located. The floor used to be made of wooden planks, but recently it has been intervened by paving it with concrete and fading the originality of the building. The roof has also a construction made of oak, while the cover is made of stone slabs

²⁴⁷ Komuna e Glllogocit, Drejtorati për Kulturë, Rini dhe Sport, 2021

²⁴⁸ MCYS, Office of Minister 2022, Decision No. 149/2022 on approving the List of Cultural Heritage Assets under Temporary Protection

²⁴⁹ Information obtained via e-mail from Ardita Rrahmani, MCYS

<https://www.youtube.com/watch?v=VqKi1vWCCPY>
(Retrieved May 28, 2022)

processed by craftsman from nearby towns. This mill operated with the help of a stream of water that came from the nearby mountains and flows into the Drenica River.²⁵⁰ The mill had been actively grinding until 2002 and since then it was not functional until the beginning of 2022 when the own-

ers reactivated it. To do so, the owners had to replace the original mill wheel with a metallic wheel, and the old wooden grinding mechanism with a newly made one by themselves. Certainly, this was not the best solution to preserve the values that this mill has maintained for decades.



Fig. 211 The water channel and the main entrance, Kishnarekë, Drenas

MILL OF ZENEL BEKA

Location: Kuqicë, Skënderaj

Coordinates: 42°47'46.3"N 20°46'49.7"E

Altitude: 646 m

Year: XIX

Current state: Moderately destroyed

Located in the village of Kuqicë of the municipality of Skënderaj, the mill of Zenel Beka is one of the oldest mills presented in this research paper and one of the most authentic ones in the sense of no restoration intervention done since it was built. However, in certain parts of it, there have been renovations and non-professional interventions carried out by mill owners themselves. These damages that required intervention occurred due to the age of the building as well as durability of materials. The mill has been in this location for decades; the current owners – the Beka family – claim that they have inherited the mill and the craft milling through generations and assess that the mill has existed in this place for 600 years.²⁵¹ However, based on the materials used, it is more than obvious that the only element that may have been inherited from centuries ago may be the size of the building or the current building may have been built on old foundations. Yet, based on reliable data, the mill of Zenel Beka is considered to have been built at the end of the 19th century.²⁵²

In terms of architecture, this mill is a rectangular one-storey building with dimensions of 9.5m x 5.8m. Due to the non-flat terrain, the main part of this building is raised on stone foundations that are higher than usual and thus raising the corpus of the building to a kind of pedestal. The external walls of the mill are built with different materials, where the use of unhewn stones dominates. The stones are jointed with mud mortar and reinforced with horizontal wooden beams. The remaining part of the walls, respectively, the wall above the channel that allows water to pass under the mill – is built of wooden planks placed horizontally. In a part of the rear wall, due to its decay, it was intervened by the owners who renovated the wall with concrete blocks that greatly damaged the authenticity of the whole building. The entrance door to the mill is supported on a frame and architraves made of relatively thick wooden beams. The door panel, about 130 cm wide, is made of wooden planks placed vertically next to each other, while the other elements of the door, which are made of metal, were had-crafted by the craftsman of the past. In the interior of the mill, there are two mechanisms for grinding, both of which are made of wood and have as their main elements the millstones that are

²⁵¹ <https://www.youtube.com/watch?v=bYlAsoHG3JA>
(Retrieved May 28, 2022)

²⁵² MCYS, Office of Minister 2022, Decision No. 149/2022 on approving the List of Cultural Heritage Assets under Temporary Protection

²⁵³ <https://www.youtube.com/watch?v=bYlAsoHG3JA>
(Retrieved May 28, 2022)

²⁵⁴ <https://www.youtube.com/watch?v=bYlAsoHG3JA>
(Retrieved May 28, 2022)

as old as the building itself. In addition to this space, there is another separate room that was used as a waiting room when the queues for grinding were long, or during the winter when there were people that came to grind from the most distant villages.²⁵³ In this room, although quite small, there is also a fireplace and a small bed for resting. The wall that separates the main space from this room is built of bricks and plastered with a material made of clay and straw. Both spaces have compacted soil floors, except for the part where the grinding mechanisms are located. The mill has an open gable roof, wooden construction – beams and planks that hold the roof cover made of Roma tiles.

Due to the damage caused to the roof over the years, the owners of the mill were forced to intervene by placing sheets in several places to prevent the penetration of rain. The mill wheels are put into operation by two streams that pass nearby the mill and the water flow that comes to the mill is about 2 km long.²⁵⁴ Given the water abundance, the mill was active throughout the year without any break. Today, even though it is not in a good condition and very vulnerable to destruction, it continues to be functional and grind from time to time for those interested. Nevertheless, the demand to grind grain in a water mill is only decreasing day by day.



Fig. 212 Side view - The Mill of Zenel
Beka, Kuqicë, Skënderaj



Fig. 213-215 The Mill of Zenel Beka,
Kuqicë, Skënderaj

5 | KEY INFORMATION SUMMARY AND CURRENT STATE OF MILLS

5.1 Documented mills and their geographical location



Fig. 216 Documented mills and their geographical location

5.2 Summary of key information of mills

(Documented period: December 2020 - December 2021)

Name	City	Location/ Village	Century/ Year	Coordinates	Altitude	Current state
Mill at the entrance of Marec village	Prishtina	Marec	XIX	42°38'55.5"N 21°21'22.5"E	886 m	Not in use/in poorly good condition
Mill at the exit of Marec village	Prishtina	Marec	XX	42°40'53.3"N 21°23'07.2"E	743 m	Not in use/in poorly good condition
Mill in Gllogovica	Prishtina	Gllogovica	XX	42°42'00.6"N 21°27'35.1"E	683 m	Not in use/in moderately good condition
Mill of Sinan Gashi	Prishtina	Mramorë	XIX	42°38'44.7"N 21°16'11.5"E	678 m	Not in use/in moderately good condition
Mill of Rexhep Shatri	Prizren	Kushnin	XIX	42°17'05.8"N 20°33'26.9"E	321 m	In use/restored
Mill of Tabakhane	Prizren	Prizren	XIX	42°12'36.6"N 20°44'01.2"E	404 m	In use/non authentic
Mill of Hakiu	Gjilan	Verbiçë e Zhegovcit	XX	42°32'18.1"N 21°19'27.1"E	764 m	Not in use/in moderately good condition

Name	City	Location/ Village	Century/ Year	Coordinates	Altitude	Current state
Mill of Sylëregja family	Peja	Vranoc	XIX	42°33'38.4"N 20°24'59.3"E	452 m	Not in use/in good condition
Mill of Cal Malushi	Peja	Kotradiq	XVIII	42°33'25.3"N 20°23'43.2"E	472 m	In use/ in moderately good condition
Mill of Tahir Lush Bërdynaj	Peja	Radavc	XIX	42°43'59.5"N 20°19'07.6"E	509 m	In use/restored
Mill of Mehmet Bricori	Peja	Kamenica	XIX	42°34'00.4"N 20°26'01.3"E	446 m	Severely destroyed
Complex of Haxhi Zeka Mill	Peja	Peja	XIX	42°39'46.6"N 20°18'00.4"E	503 m	Used for other purposes/ non authentic
Mill of Haxhi Osmanit	Mitrovica	Reka	XIX	42°53'45.3"N 20°53'36.8"E	540 m	In use/ in moderately good condition
Mill and Bifurcation facility	Ferizaj	Ferizaj	XVI	42°22'19.1"N 21°08'01.4"E	580 m	Restored
Mill of Babushi	Ferizaj	Nerodime	XIX	42°22'06.9"N 21°05'26.6"E	620 m	Severely destroyed

Name	City	Location/ Village	Century/ Year	Coordinates	Altitude	Current state
The Great Mill	Ferizaj	Nerodime	XVIII	42°22'16.0"N 21°07'51.0"E	585 m	Conserved
Mill of Selman Bega	Ferizaj	Jezerc	XIX	42°21'44.9"N 21°01'16.5"E	747 m	Not in use/re-stored
Rahaj's Mill	Ferizaj	Nerodime	XIX	42°22'12.26"N 21° 4'27.40"E	640 m	In use/non authentic
Mill of Cërmjan	Gjakova	Cërmjan	XIX	42°28'15.9"N 20°30'22.0"E	342 m	Severely destroyed
Mill of Mulliqi Village	Gjakova	Mulliq	XIX	42°26'27.7"N 20°16'10.3"E	473 m	Not in use/in good condition
Mill of Hajrizi (Mill of the gentleman)	Vushtrri	Smrekonica	XIX	42°52'21.8"N 20°56'22.6"E	582 m	Moderately destroyed
Mill in Majac	Podujeva	Majac	XIX	42°50'10.1"N 21°06'46.4"E	617 m	In use/ in moderately good condition
Mill in Metehi	Podujeva	Metehi	XX	43°00'22.1"N 21°08'36.9"E	689 m	Not in use/re-stored

Name	City	Location/ Village	Century/ Year	Coordinates	Altitude	Current state
Mill of Demë Ahmeti	Podujeva	Reqicë	XIX	43°05'50.6"N 21°05'13.9"E	945 m	Not in use/re-stored
Mill of Azemi Neighborhood	Podujeva	Pollatë	XIX	43°03'15.9"N 21°06'25.5"E	763 m	Not in use/in poorly good condition
Mill of Berisha Family	Theranda	Theranda	XIX	42°21'31.4"N 20°49'45.2"E	391 m	Severely destroyed
Old Mill of Buzhala Family	Theranda	Buzhala	XIX	42°20'13.7"N 20°54'55.7"E	610 m	In use/restored
Old Mill of Elez Ramë Buzhala	Theranda	Buzhala	XX	42°20'18.5"N 20°55'06.7"E	629 m	Severely destroyed
Old Mill of Loshi Family	Theranda	Vraniq	XIX	42°19'37.4"N 20°55'17.8"E	674 m	In use/in poorly good condition
Mill of Bytyqi Family	Theranda	Breshoc	XIX	42°24'38.7"N 20°46'34.4"E	430 m	In use/non authentic
Mill of Biçec Village	Kaçanik	Biçec	1910	42°15'08.6"N 21°13'01.5"E	553 m	Moderately destroyed

Name	City	Location/ Village	Century/ Year	Coordinates	Altitude	Current state
The Mill – Mill of Zenel Beka	Skënderaj	Kuqicë	XIX	42°47'46.3"N 20°46'49.7"E	646 m	Moderately destroyed
Mill of Fetah Osman Baliqi	Skënderaj	Çubrel	XVIII	42°46'02.9"N 20°44'37.3"E	647 m	Not in use/ restored
Mill of Jetish Mala	Skënderaj	Kopiliq i Ulët	XVIII	42°41'00.2"N 20°44'11.0"E	545 m	Not in use/ restored
Mill of Jashar Hysa	Kamenica	Leshtarë	1839- 1850	42°39'31.0"N 21°28'02.5"E	582 m	Severely destroyed
Twin mill in Hogosht	Kamenica	Hogosht	1950	42°38'14.1"N 21°38'42.4"E	561 m	Not in use/ restored
Mill of Behramaj Family	Obiliq	Graboc i Eperm	1890	42°40'30.9"N 20°58'04.9"E	560 m	Not in use/ restored
Mill of Gani Syla	Drenas	Kishnarekë	XIX	42°33'03.9"N 20°53'12.3"E	629 m	Not in use/re- stored
Mill of Sallaj Family	Junik	Junik	XIX	42°28'20.5"N 20°16'35.6"E	539 m	In use/in good condiiton

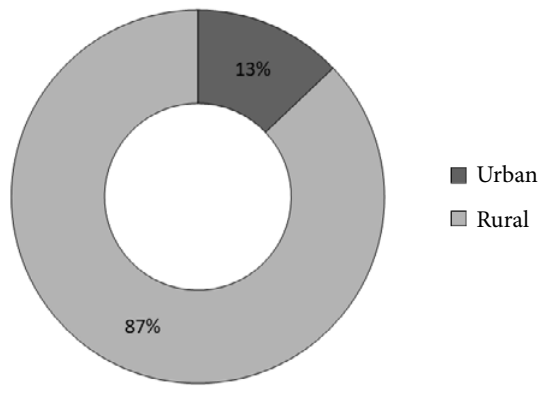
Name	City	Location/ Village	Century/ Year	Coordinates	Altitude	Current state
Mill of Qelë Bicaj	Istog	Vrellë	XX	42°46'24.7"N 20°24'02.8"E	502 m	In use/restored
Mill of Ali Bel Bicaj	Istog	Vrellë	XIX	42°46'22.8"N 20°24'01.8"E	498 m	Not in use/ restored
Mill of Bekim Binak Kamberaj	Istog	Uqë	XX	42°49'33.7"N 20°36'17.7"E	712 m	In use/ non authentic
Mill of Mazo Hajdarpashiq	Istog	Carrallukë	XX	42°42'53.7"N 20°23'38.1"E	473 m	Not in use/in good condition
Mill of Ibish Arifi	Istog	Muzhevinë	XX	42°46'09.9"N 20°28'38.1"E	447 m	in use/ non authentic
Mill of Frrok Dokiqi	Viti	Viti	Letnicë	42°17'25.9"N 21°27'11.8"E	630 m	Restored
Mill of Vishi family from Vërbani	Viti	Binçë	XIX	42°17'37.8"N 21°21'37.7"E	538 m	Not in use/ restored
Mill of Ndue Sopi	Viti	Binçë	XIX	42°17'45.2"N 21°21'41.0"E	528 m	Not in use/ restored

Name	City	Location/ Village	Century/ Year	Coordinates	Altitude	Current state
Mill of Gjirkokaj Family	Deçan	Deçan	XVIII	42°32'06.8"N 20°17'28.9"E	601 m	Moderately destroyed
Mill of Shabanaj Family	Deçan	Deçan	XIX	42°32'22.1"N 20°17'20.2"E	611 m	Used for their purposes/restored
Mill of Beqir Halil Haxhosaj	Deçan	Prokolluk	XIX	42°30'24.1"N 20°20'29.4"E	516 m	Not in use/restored
Mill of Tahirsadriaj Family (Rrustem Dervishaj)	Deçan	Isniq	XIX	42°33'16.8"N 20°17'59.6"E	590 m	In use/restored
Mill of Sadik Berisha	Deçan	Irzniq	XIX	42°31'32.1"N 20°21'23.5"E	521 m	Not in use/restored
Mill of Avdyl Zenel Jasiqi	Deçan	Gramaqel	XVIII	42°28'49.5"N 20°21'40.6"E	473 m	In use/restored
Mill of Daut Osë Hulaj	Deçan	Hulaj	XIX	42°32'07.5"N 20°15'54.0"E	682 m	Severely destroyed
Mill of Islam Zeneli	Malisheva	Pagarushë	XIX	42°25'05.9"N 20°45'47.2"E	462 m	Not in use/restored

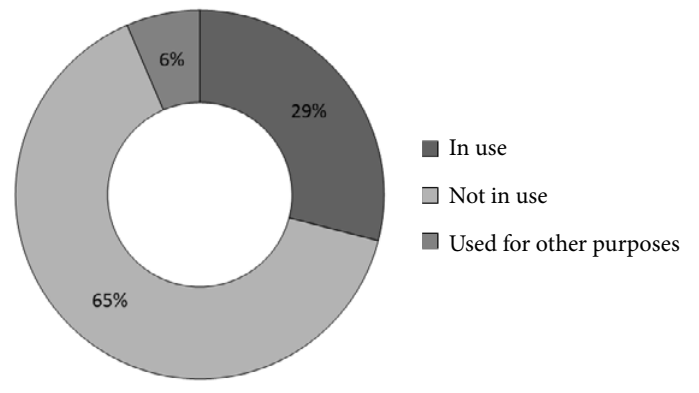
Name	City	Location/ Village	Century/ Year	Coordinates	Altitude	Current state
The old Mill	Malisheva	Banjë	XIX	42°28'08.2"N 20°46'02.0"E	536 m	Not in use/re- stored
The Mill and the Pannier of Januzaj Family	Malisheva	Senik	XIX-XX	42°28'43.7"N 20°49'45.3"E	649 m	Not in use/in poorly good condition
Ruins of Bubli's Mill	Malisheva	Bubel	XVIII	42°31'24.8"N 20°39'13.4"E	482 m	Ruins left only
Mill of Andreja/ Xhafer Krasniqi	Gračanicë	Ulpianë	XIX	42°35'58.8"N 21°10'12.0"E	576 m	Not in use/mod- erately good condition
Mill of Zylbehar	Hani i Elezit	Laç	100 years old	42°10'31.4"N 21°15'07.4"E	462 m	Not in use/re- stored
The old Mill	Dragash	Sharr	XIX	42°03'50.9"N 20°39'07.7"E	1,016 m	Not in use/re- stored
Valavica and the Mill	Dragash	Bellobrad	XIX	42°07'02.4"N 20°41'05.3"E	994 m	In use/restored
The mill in Jaseno- vik	Novobërdë	Jasenovik	XIX	42°35'45.4"N 21°28'01.7"E	735 m	Severely destroyed

5.3 Current state of mills

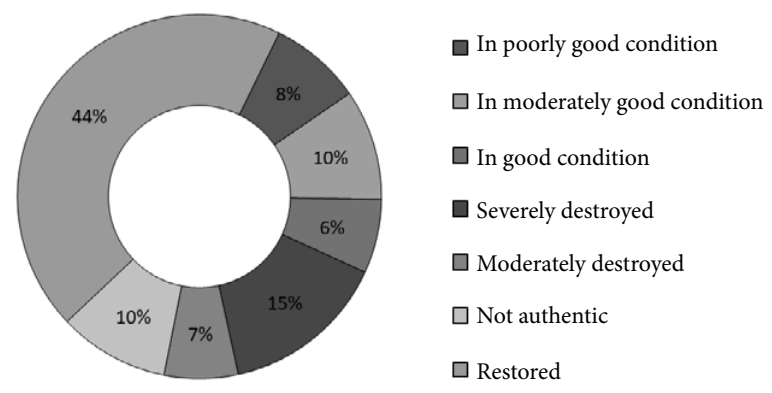
Location



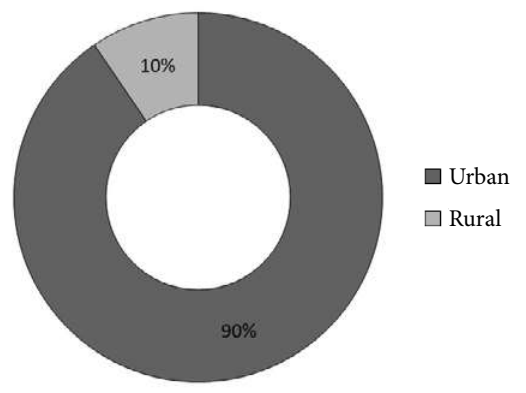
Usage



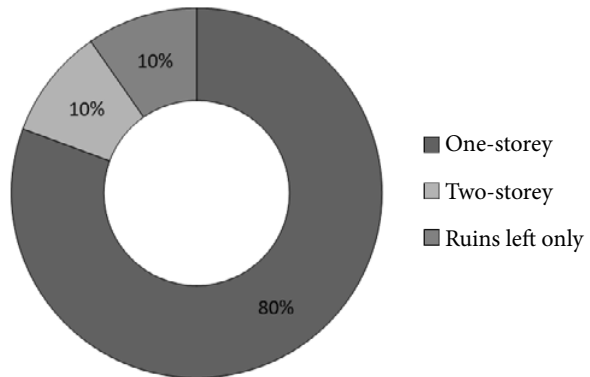
Physical state



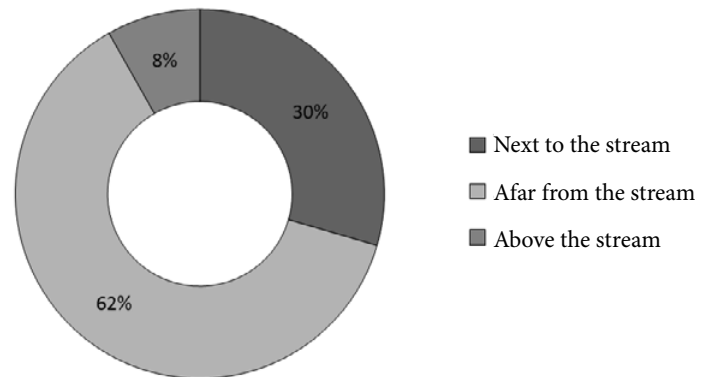
Authenticity



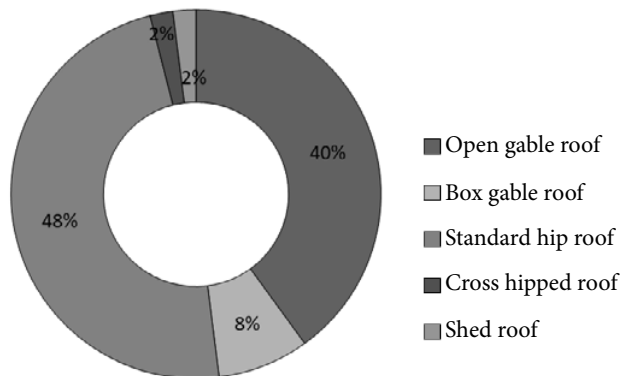
Storeys



Position in relation to the waterflow



Roof types



Wall construction materials

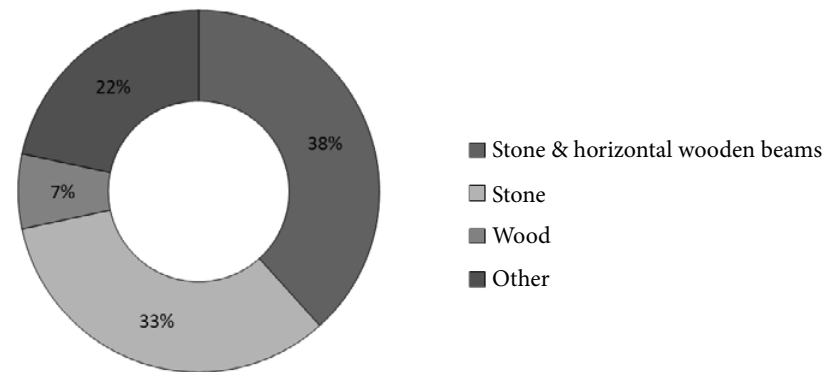


Fig. 217 Graphical depiction of current state of mills

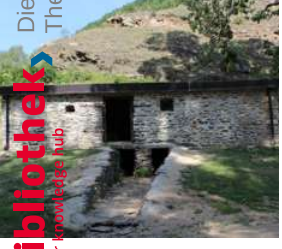
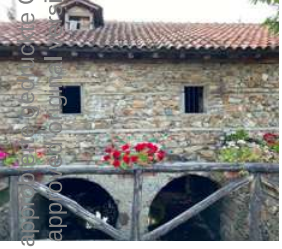




Fig. 218 (previous pages) Collage with sixty photos of different watermills visited in Kosovo (2020-2022)

²⁵⁶ <https://www.mkrs-ks.org/?page=1,10>
(Retrieved March 17, 2023)

⁵⁷ Constitution of the Republic of Kosovo, Article 9

5.3 Cultural heritage legal framework, monument preservation practice and international principles

Before we reach a conclusion on all points discussed in the above chapters, it is also very important to briefly outline 1) the cultural heritage in legal terms, 2) the heritage monuments in protection, 3) the principles and guidelines for the preservation of cultural heritage monuments in Kosovo, 4) the laws currently in force and their comparison with international principles for the preservation and re-functionalization of these monuments. Also, it is important that through some concrete examples of monuments, respectively architectural buildings that are documented in this research paper, their actual condition and the practical implementation of these basic principles are analysed.

*“Cultural heritage includes architectural heritage, archaeological heritage, movable heritage, and spiritual heritage”*²⁵⁵

According to the official description as provided by the Department of Cultural Heritage of the Ministry of Culture, Youth and Sports of Kosovo, “Kosovo’s cultural heritage is the expression and creativity of life realities developed over a period of more

than eight thousand years, from prehistory to date. This inherited wealth of unique artistic, aesthetic, historical values and traditional characteristics is exemplified by the rich diversity of architectural, archaeological, movable, and spiritual heritage, as well as the rich cultural landscape.”²⁵⁶

On the hand, the Constitution of the Republic of Kosovo, provides that the institutions of Kosovo are those that “ensure the preservation and protection of its cultural and religious heritage.”²⁵⁷ However, in order to preserve, protect and present the Cultural Heritage of Kosovo, in addition to certain state institutions and authorities, non-governmental organizations, international development agencies, different donors, diplomatic representations and religious structures have also been engaged for many years now. Since the post-war period, these actors continue to contribute to developing policies and engage in concrete projects related to cultural heritage. It is very important to involve these actors, especially international and non-governmental organizations, so they can influence in identifying the challenges in regard to protecting the immovable material, spiritual and cultural heritage of Kosovo. The Law on Cultural Heritage is considered to have legal flaws and shortcomings,²⁵⁸ which often lead to confusion, lack of cooperation between in-

⁵⁵ Law No. 02/L-88 on Cultural Heritage 2008, Art. 2.1

²⁵⁸ OSCE Mission in Kosovo 2022, p.10

National Strategy For Cultural Heritage 2017-2027

stitutions and, consequently, misinterpretation or misunderstanding of the fundamental concept of effective protection of cultural heritage. Aiming to solve the above-mentioned challenges and to be compatible with international principles and standards for the protection and preservation of cultural heritage, and based on sustainable economic, social, and cultural development, the National Strategy for Cultural Heritage 2017-2027 was approved in December 2016.²⁵⁹ The five main objectives of this Strategy are as follows:²⁶⁰

- Objective 1: Advancement of the legal and institutional framework**
- Objective 2: Integrated approach to cultural heritage towards sustainable development**
- Objective 3: Inclusion of cultural heritage in development plans**
- Objective 4: Promotion of cultural heritage**
- Objective 5: Education, training, and active participation in the protection of cultural heritage**

*“Architectural heritage is composed of:
 a) Monuments: Constructions and structures distinguished by values of historical, archaeological, artistic, scientific, social or technical interest including movable elements as their parts”.*²⁶¹

Although the laws in force still remain unchanged, during 2022 several steps have been taken that affect the fulfillment and ensuring the implementation of the objectives of this Strategy.²⁶²

According to the current Law and implementing Regulations, the Kosovo Institute for the Protection of Monuments is especially designated institution responsible for architectural heritage. This institution has the task of proposing architectural heritage assets that can be put under protection, issuing written permits for construction or other activities related to architectural heritage under protection, it is responsible for conservation and restoration activities of architectural heritage as well as oversees carrying out of related works.²⁶³ In addition to this authority, there are also regional centers that have a very important role in liaising between different institutions and regions in Kosovo and, through the identification and evaluation of cultural goods on the ground, have a significant impact on the inventory of cultural heritage.²⁶⁴

²⁶¹Law No. 02/L-88 on Cultural Heritage 2008, Art. 2.2

²⁶²MCYS 2016, National Cultural Heritage Strategy 2017-2027

²⁵⁹MCYS 2023, 2022 Summary Report on the implementation of the National Strategy for Cultural Heritage 2017-1027

²⁶⁰MCYS 2016, National Cultural Heritage Strategy 2017-2027, pp. 9-10

²⁶³MCYS 2017, Regulation No. 06/2017 on Designating Public Cultural Heritage Institutions, Subordinate to the MCYS as Competent Institutions, Art. 10

²⁶⁴MCYS 2017, Regulation No. 06/2017 on Designating Public Cultural Heritage Institutions, Subordinate to the MCYS as Competent Institutions, Art. 14

Fig. 219 Architectural heritage monuments in the list of assets under temporary protection | Other monuments vs. watermill buildings

⁶⁵ OSCE Mission in Kosovo 2022, pp. 24-26

⁶⁶ MCYS, List of Cultural Heritage under Permanent Protection signed by Minister of MCYS, dated 26.06.2023, protocol no. 3290/2023

⁶⁷ MCYS, Office of Minister 2022, Decision No. 149/2022 on approving the List of Cultural Heritage Assets under Temporary Protection.

It is important to underline that proposals for inclusion in the inventory can be accepted by different individuals, civil society or local institutions and these proposals then go through selection procedures within the hierarchy of competent authorities specified by law. Initially, from the inventory, the assets that should be offered temporary one-year protection (based on relevant criteria) are selected and, then from that list, the Ministry of Culture, Youth and Sports presents its recommendations to the responsible institution (Kosovo Council for Cultural Heritage) to review what can be put under permanent protection.²⁶⁵

To date, the List of Cultural Heritage under permanent protection contains of 46 assets²⁶⁶, while that of Cultural Heritage under temporary protection for 2022 contains 1657 assets²⁶⁷, 944 of them are within the category of assets qualified as “Architectural heritage”, subcategory “Monument/Ensemble”. In the list of assets that are under permanent protection, there is no watermill building, while in the list of assets under temporary protection there are a total of 71 watermills. Of these mills, 10 have been added to this list recently, while 61 of them have been visited and documented while preparing this research paper.

In this regards, the following mills are not part of this research work:

1. Mill of Seid Bukolla, 1917, Babaj i Bokës, Gjakova
2. Mill of Cufë Smajli, 20th-c, Rastavicë, Deçan
3. Mill of Sheh Lita, Gjakova
4. Mill of Avdyl Lulaj in Broliq, 19th-c, Broliq, Deçan
5. The Old Mill, 19th-c, Zgatar, Dragash
6. Mill of Isaku Vuçitërna family, 20th-c, Rahovec
7. Mill in Grashtica, Grashticë, Pristina
8. Mill of Avdullah Gashi, 21st-c, Mramor, Pristina
9. Mill of Isuf Hoxha, 20th-c, Shalë, Lipjan
10. Mill of Elez Elezi, 1928, Pidiç, Gjiilan

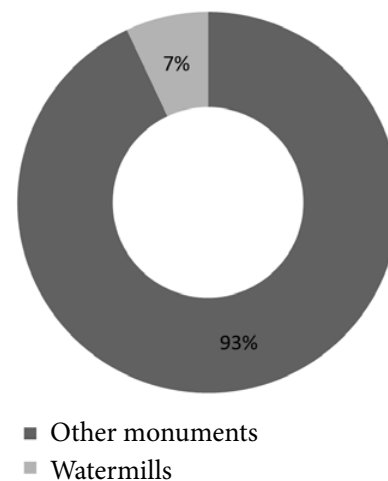




Fig. 220 (left) Mill of Seid Bukolla
Fig. 221 (right) Mill of Cufë Smajli



Fig. 222 (left) Mill of Sheh Lita
Fig. 223 (right) Mill of Avdyll Lulaj in
Broliq



Fig. 224 (left) The Old Mill in Zgatar
Fig. 225 (right) Mill of Isaku Vuçitërna
family



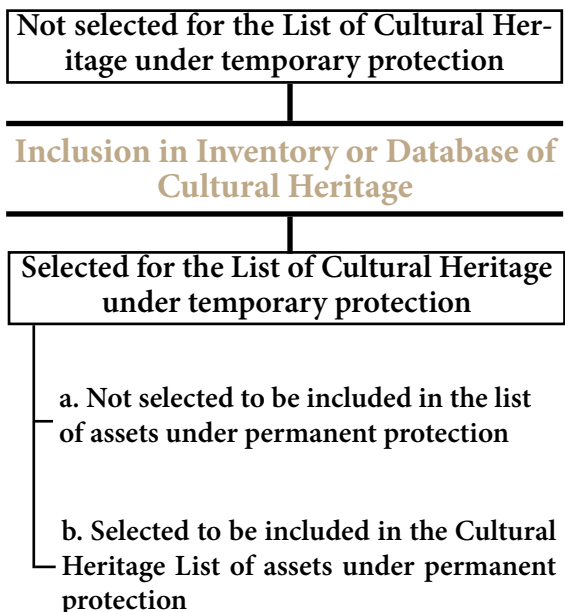
Fig. 226 (left) Mill in Grashtica
Fig. 227 (right) Mill of Avdullah Gashi



Fig. 228 (left) Mill of Isuf Hoxha
Fig. 229 (right) Mill of Elez Elezi

⁶⁸Law No. 02/L-88 on Cultural Heritage 2008, Art. 3&4

According to Article 3 and 4 of the Law on Cultural Heritage, the selection and identification procedure for the protection of cultural heritage entails the following steps:²⁶⁸



⁶⁹Law No. 02/L-88 on Cultural Heritage 2008, Art 2.11

*“Restoration means an activity aimed at preservation and displaying of values of the Cultural Heritage”.*²⁶⁹

*“Conservation means creation of suitable conditions and the taking of preliminary measures for preservation of the Cultural Heritage including maintenance”.*²⁷⁰

⁷⁰Law No. 02/L-88 on Cultural Heritage 2008, Art 2.10

The inclusion of specific assets in the list of Cultural Heritage under temporary protection, in this case the mill buildings, comes along also with the obligation that specific institutions have towards such monuments/buildings by regularly monitoring them, allocating funds for rehabilitation, and preventing their damage. So, from the moment a building is included in this list, all the rights of the owners pass to the state institutions. Yet, during the field visits, and in conversation with mills’ owners, it was learned that most of them were not satisfied with the work state institutions do to fulfil their legal obligations. So, there are many mills that are very close to their destruction and for years nothing has been done in this respect, while, on the other hand, there are mills in which certain parts of the walls or the roof where works were done by the owners themselves without assistance of competent persons or approval of competent institutions. Based on the statistics that were extracted for the purposes of this research, 15% of the mills are in a very bad condition and very close to their destruction, 10% have been completely rebuilt – they do not have any elements from the authentic buildings and clearly do not have elements to be included in the list of assets under protection, while 44% are mills that have been restored.

As examples of mills that are in the list of Cultural Heritage under temporary protection as immovable heritage assets (based only on the list of mills of this research) and that their placement in this list is unclear are: the Mill of the Bytyqi Family, the Mill of Ibish Arifi and the Mill of Bekim Binak Kamberaj. The authentic buildings of these mills have been destroyed and completely new ones have been built using completely contemporary materials and methods. In addition to the location, namely the position they are located, these mills do not have even the smallest element of authentic buildings in the name of which they have received the status of “heritage asset under temporary protection”. In any of them, the only original element that can be identified are certain parts of the grinding mechanism. Furthermore, in the official list of the Ministry of Culture, Youth and Sports of Kosovo, the data concerning the year of construction of mill buildings do not correspond to reality (they are based on the year of construction of the previous buildings), and consequently the public at large is not accurately informed. This, apart from being a bad practice, it also reveals a lack of seriousness on the part of the responsible institutions to first identify what should be included in the inventory and is also a clear indicator that updating the lists of assets



Fig. 230 Mill of the Bytyqi Family, Breshoc, Theranda



Fig. 231 Mill of Ibish Arifi, Muzhevinë, Istog



Fig. 232 Mill of Bekim Binak Kamberaj, Uqë, Istog

under protection is an issue that has a great space for improvement.

Another issue that is addressed above is also related to cases of mills that are on the list of Cultural Heritage for temporary protection and the owners – due to lack of interest from the responsible authority for a long time – intervene with restoration works in these buildings themselves. This action of the mill's owners, apart from being illegal, it damages the asset under protection causing irreparable damage in terms of protecting and preserving the authenticity of valuable buildings. On the other hand, in the case of the Mill of Mehmet Bricori, even though it is not in good condition and in danger of further destruction, it has been neglected for many years by the relevant institutions. There are similar cases in many other mills in Kosovo. This not only allows the scale of damage leading to the destruction of many mills, but also directly damages the owners who, despite their desire to re-functionalize

the mills, remain hopeless and waiting indefinitely for institutional intervention.

The field visits indicated that there are faults in the restoration process of the mills. While documenting the Islam Zenelit Mill in Pagarushë, Malishevë, and talking to the current owner of this mill, Mr. Halil Zeneli, it was understood that the restoration of this mill lasted more than 7 years from the beginning of the official procedures for commencing restoration works and until their completion. During the first visit to this mill in 2020, the restoration works were still incomplete, especially in the interventions that were being made in the interior of the mill, including the construction between the two floors and the internal stairs that connect the floors. According to Mr. Zeneli, apart from the fact that the work was not done properly and in between breaks when no work was done were way too long, the work was done by people /companies who had no experience in the field of restoration.



Fig. 233 View from the almost destroyed structure inside the mill of Mill of Mehmet Bricori, Kamenica, Peja



Fig. 234 Mill of Bekim Binak
Kamberaj, Uqë, Istog

There was also criticism towards the inspection bodies and the persons authorized to monitor the works. Following the completion of the restoration works in 2022, which were under the responsibility of MCYS, and if we delve deeper in analysis as to how the mill used to be, the works that were completed and how the law foresees the performance of restoration works on monuments under protection, it is obvious that the work done has many flaws and shortcomings. The main purpose of the restoration work, as in the case of other examples of restored buildings, of course was revitalization – bringing this building back to life and putting it into operation. However, in this case – and as in many other cases – the mill buildings continue to remain abandoned, and what is intended when investing in such projects is not being achieved. But what is very worrying is

the way restoration works are carried out, namely the lack of preliminary analysis and research, the use of incompatible materials and, in certain cases, the loss of authenticity and values that these buildings represent. In this research work, there are also other mills that have gone through the restoration process and the faults listed above are even more present and visible. It is very important to emphasize that the main value of these buildings lie in the materials used, the way of their selection and processing. These buildings do not have any complicated architecture. The uniqueness of the popular architecture that they represent lies precisely in the authentic elements that, unfortunately, in certain cases are being ignored during the restoration work to the extent that they are being stripped of all the initial features that characterize them.

²⁷⁴ (next page) The Venice Charter
1964, Art. 5

²⁷¹ The Venice Charter 1964, Art. 5
ICOMOS ENG 1994, p.111

²⁷² <http://chwb.org/kosovo/projects/>
(Retrieved April 5, 2023)

²⁷³ OSCE Mission in Kosovo 2022, p. 81

²⁷⁵ (next page) OSCE Mission in Kosovo
2020, p. 4

Fig. 235 (left) Close-up image of the restored wall and roof of the “Valanica” and the Mill, Bellobradë, Dragash

Fig. 236 (right) The restored wall of the side facade at Frrok Dokiqi Mill, Letncë, Viti

Fig. 237 (next page) A part of the interior after restoration at Frrok Dokiqi Mill, Letncë, Viti

Article 9 of the Venice Charter states that *“The process of restoration is a highly specialized operation. Its aim is to preserve and reveal the aesthetic and historic value of the monument and is based on respect for original material and authentic documents. It must stop at the point where conjecture begins, and in this case moreover any extra work which is indispensable must be distinct from the architectural composition and must bear a contemporary stamp. The restoration in any case must be preceded and followed by an archaeological and historical study of the monument.”*²⁷¹

In the restoration of the mills and the monitoring of the works, in addition to state institutions, many international organizations, civil society organizations and different donors have also been engaged with the aim of influencing the improvement of the faults mentioned above. As a non-gov-



ernmental organization, one of the most serious ones that constantly makes a valuable contribution to restoration activities, is Cultural Heritage without Border (CHwB). CHwB is a Swedish organization established in 1995 and its mission is the rescue and preservation of cultural heritage, affected by conflicts, neglect or natural and human disasters. Since 2001 when it opened the office in Kosovo, this organization, in addition to engaging in restoration work, has offered a wide program for the preservation and promotion of material and non-material cultural heritage in the region, including capacity building activities such as organization of workshops, seminars, trainings and public events.²⁷² From 2014 until now, CHwB has participated in over 50 restoration projects²⁷³, including some of the mills documented in this research paper.



Further, Article 5 of the Venice Charter states that *“The conservation of monuments is always facilitated by making use of them for some socially useful purpose. Such use is therefore desirable, but it must not change the lay-out or decoration of the building. It is within these limits only that modifications demanded by a change of function should be envisaged and may be permitted.”*²⁷⁴

The Frrok Dokiqi Mill in Letnicë is a good example of restoration and conservation of architectural heritage. This project, carried out in cooperation with CHwB and architecture students who participate in the workshop, was implemented with the funding of OSCE as part of “Rediscovering the Heritage of Letnicë/Letnica” in 2018 and 2019.²⁷⁵ After the completion of this workshop, the mill was returned to a state where it could continue to serve its original purpose and at the same time serve as a mill-museum. In this workshop, apart from the fact that the main goal of revitalizing this mill was successfully achieved and upholding the framework of genuine restoration and conservation, what is even more important is that all the architecture students who were part of this work – and that in the future they may deal with important issues of cultural heritage – worked and were familiarised with internationally recognized standards and techniques that should be applied in every other project of this type.



CONCLUSION

Watermills being one of the most important technological inventions of mankind, through the degree of their development in different historical periods, show a lot about the level of civilisation of certain societies throughout world. The state of a certain building typology as well as the changes that buildings can undergo over the years, are always the result of contextual influences at different levels. The use and development of water mills in the context of the Albanian culture in particular and the Balkan culture in general, from the Byzantine period (from when there is evidence of the appearance of the first mills in the Balkans) until today, not only as a skilled practice but also as an indicator of social and economic development, it is somewhat unclear and insufficiently studied topic.

This research, analysis, and documentation of the old watermills in Kosovo, in addition to highlighting some complex problems of cultural heritage in Kosovo, proved once again the social and economic importance that the mills have had and still may have for the people of this country. Also, it served to understand the principles on the basis of which water mills operate in Kosovo, the level of craftsmanship in their construction and, what is very important, through specific comparable examples, it identified which operational and architectural elements can

be considered autochthonous, which are common to a wider geographical area, in this case the Balkans, and which ones are universal elements.

The results of this research that are summarised in the statements as outlined below, can not only serve as a basis to encourage a rethinking regarding cultural heritage policymaking and their treatment as cultural heritage monuments regarded to be economically important only, but they can also serve as sustainable information before proposing ideas to regenerate, revitalise or apply new adaptive designs to these buildings and the environment around them.

There are over seventy mills in Kosovo dating back to the time of the Ottoman Empire, and after the Albanian Tower Houses they are the most important segment of Kosovo's vernacular architecture. The same can be said for all mills of the same category in other countries of the Balkans, especially those mills located in rural areas that managed to stand the test of time and maintain authenticity.

As it has been specified in this paper, all old water mills in Kosovo belong to the category of horizontal-wheeled mills, subcategory "ordinary" horizontal-wheeled mills. In terms of the principles of operation, the shape of the wheel and almost the entire grinding mechanism, with some negligible

differences, are the same throughout the Balkans, especially in those parts where the influence of the Ottoman Empire was widespread. Apparently, the latter did not attempt to promote the advancement and development of water technology and therefore all the mills were developed within the capacities of the people and the knowledge of the popular craftsman. It can be said that the water mills built in the same period of time, but in some countries of the Balkans where the influence of the West – respectively of the Austro-Hungarian Empire – was more prominent, were more advanced not only in terms of their construction but also of efficiency and power.

Since the architecture of the mills is mainly utilitarian, and regardless of the fact that the Albanian folk craftsman developed and exercised his activity in spite of the influence of other cultures, on a broadly comparative level the water mills in the Balkans, in terms of spatial and functional organisation, have many similarities and commonalities. But on the other hand, as in the construction of towers, granaries, corn cribs, houses, the popular craftsman created unique and independent elements of the popular architectural language, not only in terms of architectural elements but even in the middle of the structural-constructive and shaping system with distinct features and complete identi-

ty. However, as far as the analysed mills are concerned, these features are clearer and more pronounced in the architecture of the mills built in the Western part of Kosovo, in the Dukagjin Plain, especially in the two-story ones similar to the Tower Houses. Smaller sized mills in some cases were built by the villagers themselves in organised groups; therefore, in these mill buildings the architectural values are somewhat paler and more universal. It is important to emphasise that basically the architecture and logic/way of their construction, considering the mills built many centuries ago to those built at the beginning of the last century, has not undergone major changes.

Furthermore, the mills in Kosovo can be categorised into two groups according to their height – one-story and two-story mills. However, regarding the shape of the plan, they mainly have a rectangular plan and in some special cases they have an “L” shape plan. Twin mills are also a special type of mill documented in Kosovo. Within these categorisations and typologies, you can then distinguish the organisation of their interior space, the materials used and other architectural elements that shape these buildings. All the mills documented and analysed in this work are gristmills, regardless of the fact that some of them also had additional spaces or mechanisms that served for textile

processing. As far as places where grain was milled are concerned, these buildings bring to the collective memory of the inhabitants of these areas their symbolism that relates to bread and consequently with concept of survival. However, from conversations and interviews with residents during field visits conducted all over Kosovo to understand the local perception of mills’ role, they indicated that their importance exceeded their economic utility primary function by having a very important social function – that of socialisation. As important meeting points, they once represented identity landmarks for the local community.

As the economic and spiritual importance of the mills is waning among the younger generations, for the reasons elaborated to some extent in this research, the same is happening with the profession of the miller – which once was as profitable as it was reputable. Now, the last generation that considers being a miller as a primary profession are old people, while the younger generations do not see it as a profession or a profession of the future.

Therefore, the current situation of mills in Kosovo can be easily considered complicated and sometimes even polarising. This is not only in the sense of the physical condition, but also in the sense of ownership, the state after restoration and the direction that

is thought to be given to these monuments of cultural heritage in the future so that they are not endangered by collective oblivion. From what was documented on field visits and concluded during this research, the future of these buildings in the plans of the responsible institutions, in terms of their revitalisation and reuse, remains blurred and without any genuine and concrete long-term plan. So, in addition to the problems related to the late identification of the assets, not intervening in time to save them from complete destruction, not taking care and not monitoring their ongoing condition, either during the restoration or conservation process or after completion of restoration projects, the preservation of originality during the interventions, another and quite worrying problem is their abandoned condition after the intervention by the institu-

tions to bring them back to life. Intervening in a monument to save it from destruction is extremely important; but at the same time having a plan for what the future of the monument is after the intervention is even more important.

The authenticity of these buildings, in addition to being a potential basis for the development of nostalgic tourism related to the traditional way of life of local communities, should also serve as a basis for the development of new ideas related to soft tourism that can keep these buildings alive.

And lastly, a building can be preserved and protected from decaying only if it is continuously used. So, what existed yesterday can slowly fade today and, without maintenance, documentation, and continuous use, it may even disappear at all tomorrow.

ACKNOWLEDGEMENTS

I am enormously grateful to a lot of people for having supported me in many ways throughout this amusing yet arduous journey of completing this research. First and foremost, I will be forever indebted and immensely thankful to my supervisor Ao.Univ.Prof.in Dipl.-Ing.in Dr.in techn. Caroline Jäger-Klein for her endless encouragement, wise counsel, remarkable patience and for all the valuable discussions we had along the way – I will benefit throughout my entire life and career from her invaluable advice. I also like to thank Univ. Doz.: Gerhard Stadler, AO. Univ. Prof. Dr. Phil., especially for his guidance in the early phases of this work, and my two other supervisors Univ.Prof. Dr. habil. Heike Oevermann and Ao.Univ.Prof.in Dipl.-Ing.in Dr.-Ing.in Dörte Kuhlmann, who both agreed to supervise me without any hesitation.

I am also very grateful to the "International Office" of the Vienna University of Technology that financed my stay in Kosovo and made possible for me to visit different watermills all over the country.

I have greatly enjoyed while working on this Master thesis and that is probably mainly due to many people I met during this journey all around Kosovo – I am confident that this thesis would not have been completed without the contribution of all of them who took their time and were willing to help and share their experiences. To all people of various institutions and organizations, mill owners, locals, occasional villagers and experts on the subject, who in one way or another helped me without hesitation: Thank you!

The completion and success of this work was totally reliant on the remarkable support, care and love I always have at home. To my parents, Adriana and Jeton – thank

you for your unconditional, unequivocal, and loving support. You have raised me up to more than I can be! To my sisters, Zana and Elona – thank you for being a constant support system in my life, cheering me on and standing all the ups and downs throughout this journey. To my life-partner, Arsim – thank you for being with me every step of the way. From the very first draft sent and to the very last mill visited, I could not have asked for a better companion to share those moments with.

Finally, to my grandmothers, Nexhmije and Sanije, who promised to ask only once a week about the research progress but always failed to do so – I dedicate this to you!

GLOSSARY

Agai

Landowner, smaller than Bey, rich manor

Beg, Bej

Title of nobility during the Ottoman rule, land owner or leader of a province

“Bukë, kripë e zemër”

Bread, salt and heart”, a phrase that expresses the Albanian hospitality and indicates the poverty that existed in the Albanian speaking area in the past

Çakallja

Damsel; A piece of board which strikes the upper mill-stone as it revolves, and which regulates the falling of the grains of grain between the sieves little by little from the trough of the bin

Çerep

A clay vessel like a deep pan, in which bread is baked

Esnafe

Powerful institutions that through the control mechanisms they had at their disposal played an important role in the internal politics of cities.

Hajat

Porch; A covered shelter projecting in front of the entrance of a building.

Hatulla

Horizontal wooden beams

Kaçak

Kachak; The one who ran away from home, lived in hiding, usually, in the mountains and fought against social injustice, against the exploiting classes and the foreign invader

Konaku

Service place or inn where travelers could eat and spend the night during a journey;

Room or space usually on the first floor of the house, used to host guests

Kulaç

Traditional small boule-like bread

Kulla

Tower houses, tall stone house with small windows and/or turrets

Magjja

A traditional Albanian wooden chest and is in the shape of a wooden box, which was used to store flour and prepare bread dough

Mulli

Mill; Mill building

Mullis

Miller, a person who owns or works in a grain mill

Pronoia system

A system of granting dedicated streams of state income to individuals and institutions in the late Byzantine Empire

Saç

A round sheet iron, which, after it is well heated over the fire, is used to bake traditional sorts of bread and dishes.

Sofra

A low round board table used as dining table

Tabakë

Tanner, Leatherworker – someone who tans animal hides

Tabakhana

Space where the craft of tanners takes place

Ujem

Flour or grain, which was given to the miller as payment for the mill

Vada

Irrigation line; the amount of water needed to irrigate a field or a garden

Valanica, Dërstila

The wool processing space; Fulling mill

Vatra

Hearth, fireplace

Waqf

Religious foundation applied in Ottoman Turkish law



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