



**The transition of Moldovan Vernacular Residential
Architecture in the XIX century
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AR2A011: Architectural History Thesis 2023

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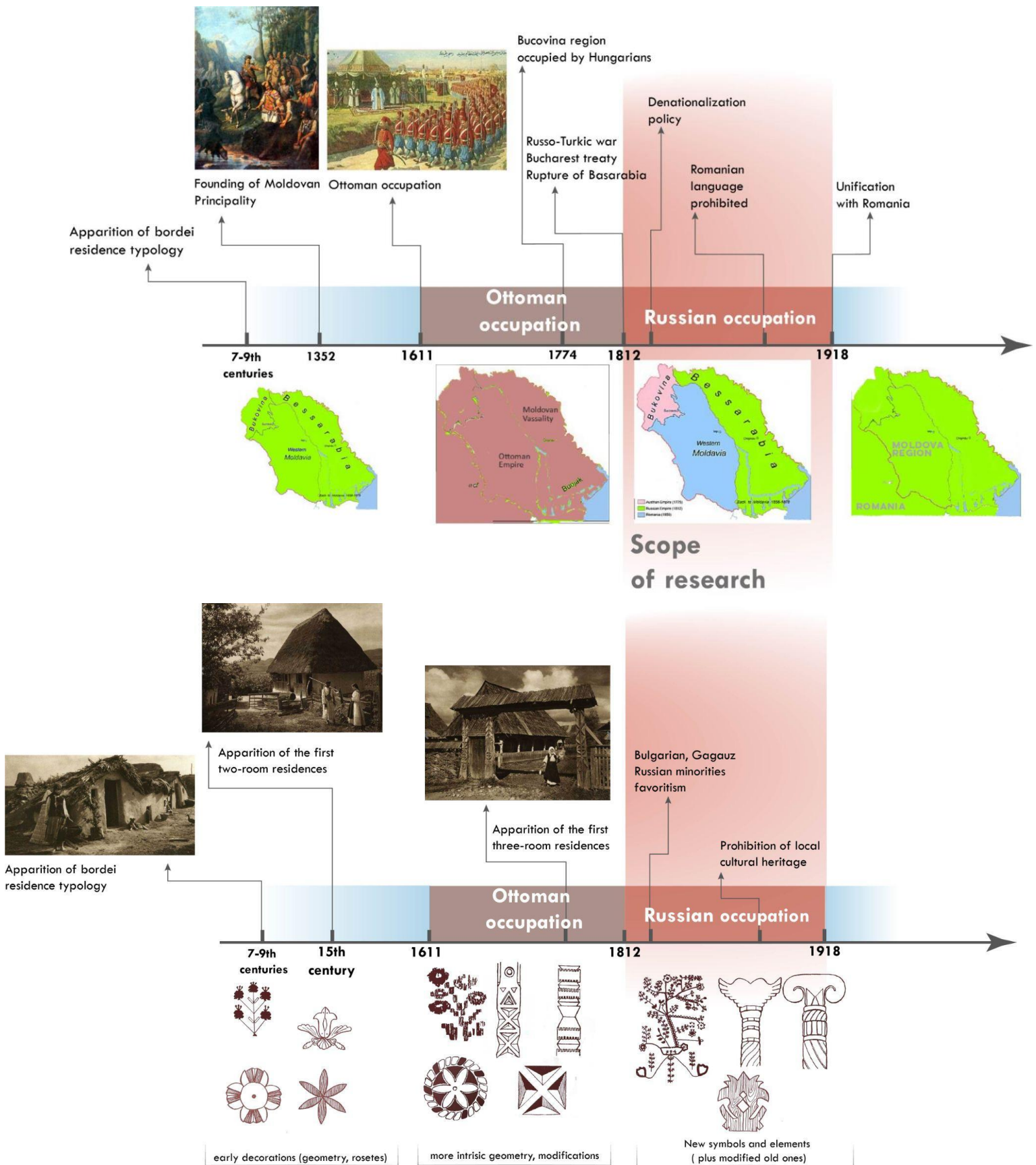


Figure 1 Timeline showing the development of Moldova in terms of territorial integrity, housing typology, ornamentation and historic events.

INTRODUCTION

Since the 14th century, the Principality of Moldova inhabited the territories between Nistru River, the Black sea, Danube and the Carpathian Mountains. This location, although having well-delimited natural borders, represented the intersection of multiple spheres of influence such as the intersection between the Ottoman Empire and the European Monarchies, Islam and Christianity etc.

Even after Moldova became a vassal state to the Ottoman Empire, it maintained the character of a “Border state” – Territory located between two hostile major powers (Russians and Ottomans) forming a buffer zone. During those times, the local architecture progressed in two ways – a development of the vernacular architecture and the process of transition from earth and wooden huts to stone and multi spatial planning¹. On the other hand, landmarks, defensive structures and religious buildings were not allowed to be built or following a strict code (Nesterov, 2019). With the dwindling influence of the Ottomans in the 18th century the “balance” is broken, and the Russo-Ottoman wars start, leading to the destabilization of the whole Balkan peninsula and

¹ From the interview with Tamara Nesterov, on December 29 2023, Chisinau.

Eastern Europe. In the aftermath of this conflict, Istanbul is forced to cede territories – Moldova becomes the main bargaining chip, with the Russian Empire initially asking for the whole territory of the principality. A consensus was reached in Bucharest in 1812 upon which Moldovan territory was divided in half along the Prut river. Since then, the territory occupied by Russia was called Basarabia. This part of the old principality met fierce denationalization politics – oppression of the country folk and prioritizing other minorities and, in some cases, forced deportation (Statnic, 2021).

“A country’s architecture is perhaps the most precise expression of its history, as nothing gives us a more certain image of the past and more authentic knowledge of a civilization.”

George Matei Cantacuzino, Romanian Architect

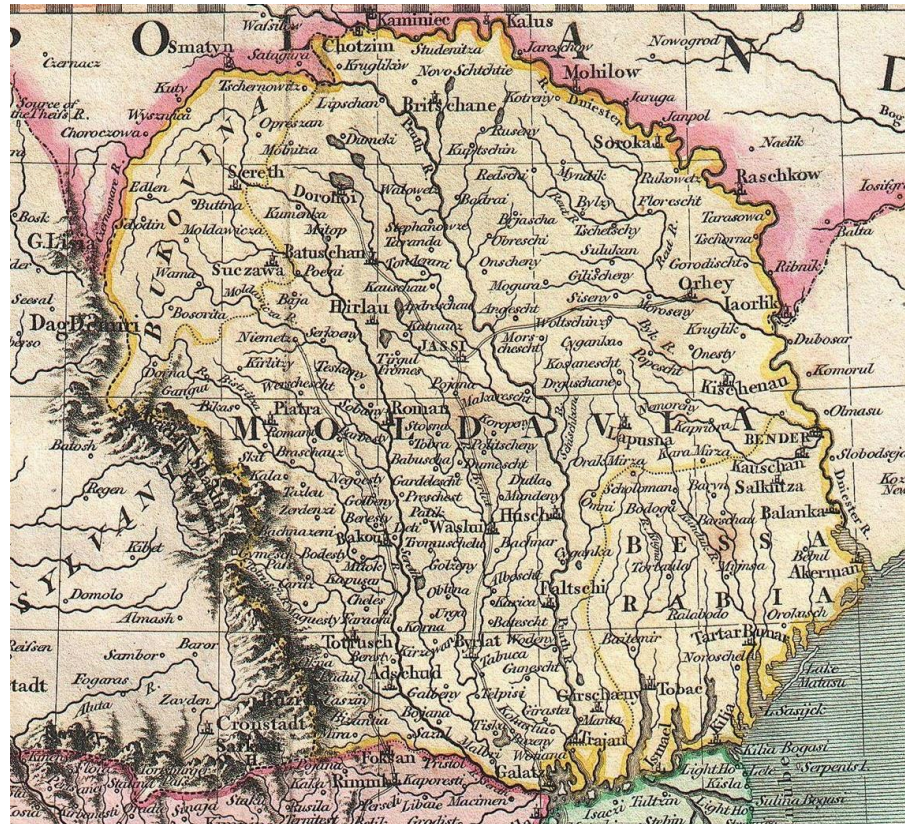


Figure 2 Moldova 1801, the province before the rupture of 1812

Unlike the Turkish oppression which focused on the critical infrastructure of the state (Nobles, army, fortresses and economy), Russian occupation presumed a direct oppression on the culture, livelihood of peasants and rural inhabitants (Dragnev, 1992). The easiest way to appease the population to the new cultural reforms was deportation and forced migration of other minorities inside Basarabia. This led to major changes in culture, way

of life and architecture (Şaranuța, 2019). Therefore, this historical research is focusing on the way local vernacular architecture of residences transcended with the apparition of new minorities, based on architectural morphology and traditional decoration. Given that Moldova was divided in two separate provinces, it is imperative to analyze the way vernacular architecture developed in the region that was not occupied by the Russian Empire and gained its independence 54 years after the rupture of Basarabia. Subsequently a comparative study is created between these two regions of the same country.

For an appropriate understanding of the historical setting of the Principality of Moldova before 1812 and what led to its architectural change, descriptive literature was used. One of the main books of this domain is *DESCRIPTIO MOLDAVIAE* – the first extensive book describing the geographical and demographical state of Moldova before the Russian occupation (Moldovan Academy of Science, 2015). Furthermore, books on Moldovan cultural heritage were used to exemplify the symbols and explain their provenance and usage. Symbolism was always an important part of Eastern European vernacular architecture (Şaranuța, 1984); thus, their research is imperative. To gain more data on the architectural heritage of Moldova and its change in the 19th century, a set of interviews has been organized with Silvia Şaranuța – ex director of the National Museum of Ethnography and Natural History, author of the book “Spiritual and Material Culture of the Romanians in Basarabia” and Tamara Nesterov – Architectural historian, professor of restoration from Moldova and the author of the book “Proportions of Moldovan Architecture”²

After an extensive literature review about Moldovan architecture and cultural heritage³, it was evident that most of the papers and books are factual. This research will thus research Moldovan vernacular architecture through a causal perspective. By consequence, the result should show a comparative study on the Moldovan residence and ornaments in Basarabia (after the denationalization reforms) and the province of Moldova that became a part of Romania in 1866. In this way one could see the architectural differences and developments in Basarabia and give way to future research into Architectural symbolism and ornamentation development in time.

To border the research, a question is presented:

What are the characteristics of the Moldovan vernacular architecture in Basarabia and how did it change in the 19th century in comparison with the Non-occupied region of Moldova ?

Given the fact that this subject is not a usual theme of research, the methodology will focus on a fast and descriptive setting of the history of

² The interview with T. Nesterov and S. Şaranuța will be referenced in footnotes.

³ Literature review is represented via the references, on the last page of the paper.

Moldova before the researched timeline begins. This allows the reader to understand better and create a more coherent reflection on the subject. The historic-geographical description will be followed by a structured description of Moldovan architecture.

The content of the research starts with a brief text explaining the lay of the land, internal/external factors that influenced Moldovan society, culture and architecture. The historical descriptive chapter is followed by an extensive description on the typical architecture of the residences in rural regions and their building technology. The chapter would subsequently describe the local residential typologies in terms of space and area.

The research further broadens into two chapters explaining the traditional ornamentation and dimensions/structure subsequently. This allows a broader overview into the similarities, identities and differences of the minorities that inhabited the land that is described in the next chapter - Regional and Ethnic characteristics of Moldovan residential vernacular architecture.

To answer the last part of the research question, comparative study is presented in the conclusion chapter of the research, it simultaneously leads to more questions that this research managed to tackle and prospects of study.

Historical and social description of the land



Figure 3 Map of Europe during the 15th century

History

The Principality of Moldova (Encyclopedia, 2023, February 14) was one of the three Wallachian states (Moldova, Muntenia and Transylvania) located on the outskirts of Eastern Europe, Between the Carpathians and Nistru River (Figure 2). Being the inheritors of the ancient roman province of Dacia, these kingdoms represented the only Latin nation in Eastern Europe (Stanic, 2021). The kingdom of Moldova (also named the Country of Moldova) was established in 1357 by Dragos, one of the Wallachian Nobles, in an event called “the dismount of Moldova”. The Principality reached its golden age during the times of the king Stephen the Great by the end of the 15th Century, during his rule Moldova fought multiple wars and won all off them in 44 battles. During all this time Moldova was bordered by major empires that greatly overpowered this small state - Hungarian Kingdom on the West, Polish-Lithuanian Commonwealth on the East and the Ottoman Empire on the South. Despite being an enclave to all these states, the country resisted and emerged victorious over multiple wars meant to occupy Moldova. These wars

also fostered a massive architectural development, particularly ecclesiastical and defensive architecture. King Stephen the Great, after every battle he won, raised a monastery or church in the country, this amounted to over 40 religious' buildings of different style and architectural appearance. With the death of King Stephen the Great, Moldova fell in a continuous decline because of a long series of bad rulers and devastating wars and culminated in it becoming a vassal state of the Ottoman gate. Besides the obvious administrative, financial and defensive strains the occupation brought, it also acted on the architectural heritage of the Nation - fortresses have been torn down and left as ruins, multiple noble residences destroyed. It culminated with the establishment of the restrictions on Churches, one of the most famous being the restriction on height - No new church must be taller than an Ottoman rider. An example of these harsh architectural requirements was the Church "Assumption of Virgin Mary" (Adormirea Maicii Domnului) from Causeni. Throughout this time. The Ottoman repressive policies would diminish in the beginning of the 16th century.

Society

The genesis of the Moldovan nation took centuries, starting with the Aurelian retreat of Dacia in 275 AD (Şaranuța, 2019). Most of the Roman colonists that inhabited Dacia remained and established the Wallachian nations. This information is confirmed by the ruins of a roman fortress and inscriptions found in the village of Gherghina and multiple roman forts (Hâncu, 2016), structures with the biggest one being the Trojan's wall - a massive structure, similar to Hadrian's wall in Britain but at a smaller scale.

Since the establishment of the Moldovan principality, multiple migrating nations have passed through its borders (Ghimpu, 2006), starting with the Slavic⁴ migration, Tatar and Golden Horde attacks as well as the Hungarians and Les (inhabitants of Poland-Lithuania). In the book DESCRIPTIO MOLDAVIAE, Dimitrie Cantemir relates about the abundant number of minorities in the country:

... "I don't think there is any other country the size of Moldova where you can meet foreigners, so many and so special. Apart from the Moldavians, whose

⁴ Slavs- a European ethnolinguistic group that are distributed throughout Europe, First mentioned in the 6th century AD in the Byzantine Empire by Procopius

ancestors came back from Maramureș, Greeks, Albanians, Serbs, Bulgarians, Les, Cossacks, Russians also live in Moldova. Hungarians, Germans, Armenians, Jews and Gypsies with many children...”

If one would correlate this comment with the denationalization politics of Russia a question would arise, whether Moldova was actually a nation with a completely dominant number of ethnic Moldovans or not. In reality the Cantemir argues that the enormous number of minorities did not really settle permanently in Moldova or did not inhabit the rural regions so much. For example (Moldovan Academy of Science, 2015, 77) Greeks, Albanians Serbs and Bulgarians mainly focus on trade and would not settle definitively in Moldova. Les, Germans and Cossacks were the Mercenaries employed in the army etc. The minorities of the old Principality were primarily Tatars, Turks, jews and Cossacks/Ukrainians. The ottomans were not allowed to settle in Moldova and by no means build a mosque. This is why there are not many ottoman influences in terms of vernacular architectural heritage.

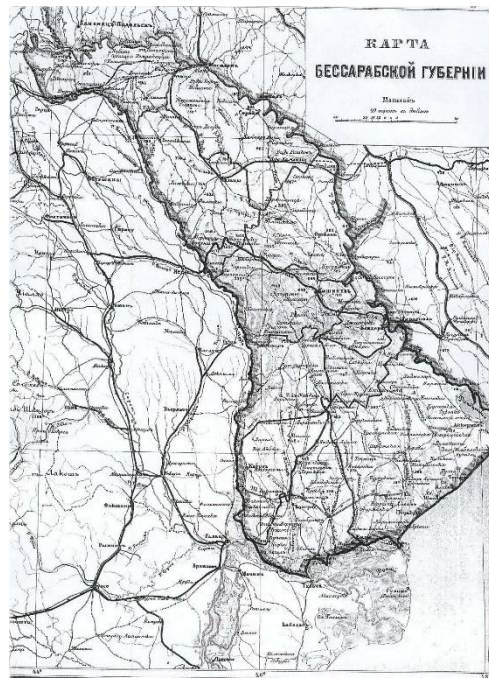


Figure 4 Map of Basarabia (The territory occupied By the Russian Empire after 1812)

With the start of the Russian occupation the local minorities lost their lands, particularly in the southern province, where many Bulgarians have been forcefully settled (Gheorghîță, 2006). Besides that, land was removed from many Moldovan farmers and given to the new settlers who gained the rights of “Colonists”, thus creating a hierarchy over the land right, where the main inhabitants of Moldova were not in the first place at all. Moreover, in 1813, by an ukaz (Russian name for order) of the tzar, Romanian language was banned from documents followed by a complete interdiction from 1866 because of fears for Moldova reuniting with the

newly emerged kingdom of Romania. Because of the usurpation treaties signed in 1812, by the end of the Russian occupation in 1918, Moldovan population percentage decreased from 94% to 71% in favor for other minorities, particularly Russians.

The development of the traditional Moldovan residence before 19th century



Figure 5 Archaeologic study of a hut in Northern Moldova by Hâncu



Figure 6 Hearth with internal burning (stone clad with no mortar)



Figure 7 Large Hearth system for cooking and drying cereals in a single room house/hut

The climate of Moldova between the centuries III and V was characterized by short winters, long hot summers with a low amount of precipitation. The abundance of rivers, high amount of heat and mild winters favored considerable growth of vegetation on the whole territory, giving birth to the massive forests that crossed the whole territory of the principality - the Codrii. In that time, the local population built huts out of wood with primitive building technology, creating a tight structure out of thicker branches and joining the structure with a mixture of manure, soil and adobe (Hâncu, 2016,). The climate was not harsh, consequently the hearth of the residence was a small open fire called ‘vatră’ (Figure 5)- the heart of every residence. This chapter sheds light on the development of the Moldovan traditional residence and the factors that influenced its development. Based on the works and interview with the architectural historian - Tamara Nesterov, the initial Moldovan residences could be explained via the development of the hearths, from open fire to complex structures occupying a vast surface of the residence⁵.

With the overall cooling down of the climate in the VII century, an important event occurred in the moldovan region - the migration of Slavs. The Slavs brought with them a new technology - the hearth with internal burning (Figure 6) - an archaic type of oven that would be constructed out of hard rocks with no mortar (Hâncu, 2016 p.13-33). The hearth would siphon through the orifices between the stones and heat up the space - this allowed the local population to increase the dimensions of their residences. With the rise in surface area, spatial organization (Hâncu, 2016, p.109) became more important. Archeological research made by inquiry of the Museum of Ethnography denoted a certain typology of the old houses (half-buried huts) in terms of spatial organization. These early medieval houses had an almost equal proportion in length and width. As a rule, the hearth would be positioned diagonally opposite to the entrance to keep the warm air from escaping. Around the walls storage shelves and seating would be organized (Hâncu, 2016).

⁵ In the interview, Tamara Nesterov explains that during archeological analysis, the residences were classified via the usage of fireplaces, as it was the clearest way to see the century (or centuries) in which the house was built.

Around the 12th century the oven became the most utilitarian object in the house. just like the house, an extra layer of adobe was added around the walls to create more thermal mass simultaneously flattening its top. The flat top oven is also portrayed in the national museum of Natural History and Ethnography in a scene exemplifying the daily activities of the inhabitants. The rise in the surface and flatness of the oven let the villagers to dry their cereals during the day and provide a warm base for sleeping in the night (Hâncu, 2016, p.115).

The development of moldovan residence from one to two-room house culminates in the creation of the most iconic vernacular residential plan - the tricameral moldovan residence (Nesterov, 2019). This residence would have a more stable foundation that would be located around the exterior walls. As one would enter through the porch and the door, he would find himself in the kitchen (camara), the place where the hearth is fueled and most of the interaction is happening. On the left would be the living quarter of the family (casa mare) and the guest room on the right (tinda) (Șaranuța, 2019, p. 25). The hearth was in the middle of the space, thus becoming a part of the two interior partitions and providing enough warmth for all three rooms. Thus, the fireplace became the denominator of moldovan traditional houses and allowed the local inhabitants to build bigger, stronger and more diverse types of houses, therefore transcending from half-buried huts, to raised houses, complex building technology and culture.



Figure 8 Traditional three chambered house in Butuceni village, central Moldova

The symbolism and ornaments of Moldovan vernacular residential architecture

“Traditional art appeared and developed in permanent connection with the nation’s life, thus constituting an eloquent proof of its rich talent” Silvia Șaranuța .

Moldovan history is tightly knit with the local symbols and ornaments, thus representing one of the foundations of the cultural heritage (Șaranuța, 1984, p.4). Since the Roman conquest, symbols were painted, carved or added on the walls of the houses, some abstractly geometricized (rosettes), others redrawn with detail (fish, anthropomorphic figures).

In moldovan vernacular architecture, four distinctive categories of ornaments are formed: Geometric, floral, zoomorphic and anthropomorphic (Șaranuța, 1984,6). It is of course, common knowledge that a vast majority of ornaments are not exclusive to moldovan traditional art, sometimes an ornamental motif can encompass continents. A popular example is the sun’s motif that is present equally in Eastern European, Egyptian and Indian architecture simultaneously (Șaranuța, 1984,7), it being a symbol of fertility and good will. In other cases, ornaments are a distinctive trait of the region. Such an ornament for Moldovan culture is considered the “Tree of life” - a symbol that synthesizes the national ideals. Based on the works of Silvia Șaranuța, early medieval people considered that this object had a magical meaning, based on one of the ancient moldovan myths which promoted the idea of youth without seniority and life without death” (Șaranuța, 1984, 5).

From the aforementioned classification of ornaments, the most frequently seen are the geometric ornaments represented by rhombs (diamonds) squares, triangles, circles, lines and dots⁶. These basic shapes represented certain elements of nature, daily life and assets. For example, the rhomb and triangle would symbolize leaves, nature and grapes, the square was a representation of a house. By adding a rhomb or a flower depiction in the square, one would get the simplest representation of the tree of life.

Floral ornamentation could be represented via the use of rosettes, thus showing the inner circle and petals of a flower, or a drawing of a certain flower in a plane. In some cases, the flowers were represented through a circle with a spiral - a shape denoting the evolution of ornaments from basic geometry to complex shape. This type of decoration would be more frequently used on national costume and daily use objects such as pots or carafes, most often floral ornaments would be observed on the capitals of the porch pillars or window frames of old houses. The significance of

⁶ Mentioned by Silvia Șaranuța in an interview, taken on March 23rd 2023, online.

floral elements is vague; however, one could argue that it represented regeneration, beauty and life.



Figure 10 Horse spire on the roof of a vernacular house. Central Moldova 1984

A more important ornament class used in vernacular architecture is the zoomorphic category. This type of decoration is defined by a representation of animals, bearing a certain symbol for the inhabitants. One of the most popular zoomorphic decors is the horse (*figure 10*), more precisely two horses oriented in different directions from each other. The provenance of this element can be dated back from the Scythian civilization⁷ (Șaranuța, 2019) revered by Romans and Greeks for their equestrian prowess. Such elements would be mounted on the roof trim, thus crowning the houses. According to Silvia Saranuta's book on

ornaments, the horse pair was the representation of a family (man and woman), thus the life of this family and the nation. Another important zoomorphic element is the fish - mostly seen in orthodox and early Christian temples. The fish in orthodox Christian culture represented Christ. In Moldovan culture it represents wealth. Most of the time such elements would be seen on the pediment or front porch of the houses.

⁷ Scythians - a nomadic group, originally from Iran plains that dominated the black sea in 7-3 centuries BCE.

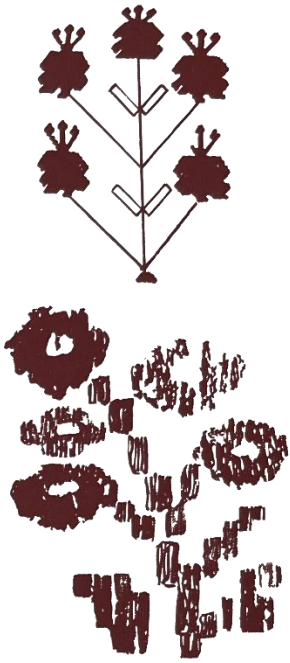


Figure 11 Traditional gate from Tirpești village, The master carved out the portraits of its family.

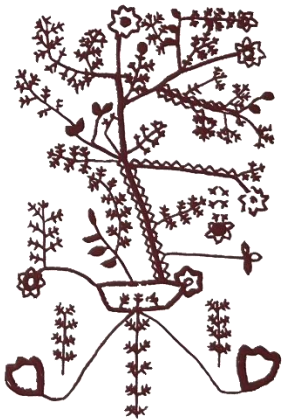


Figure 12 The "Tree of life" and its different iterations seen on architectural and tapestry application.

The final category of Moldovan ornamentation is anthropomorphic decoration. This was defined by a collection of basic geometric shapes that in composition would represent a human face, or a very abstract representation of the human body, man or woman. Usually, such ornaments would be located on the pillars and balustrade of the porch and the gate pillars.

According to research made by local ethnographers in the late 70s it was deduced that the ornaments were not distinctive in terms of ethnicity

or region (Maier, 1979). Photography and site visits show that throughout the old moldovan borders (Carpathians and Nistru river, although also the Transnistrean region) similar ornaments have been used throughout the territories with no stylistic difference (Florescu & Buzenschi, 2016) (Șaranuța, 1984). The only ornamental distinction can be made in terms of popularity of a certain symbol, for instance, floral motifs were more frequently adorning northern houses, along the Nistru northern valley and Bucovina (Now territory of Ukraine) and zoomorphic details dominating the southern regions of the country. The central region of Basarabia was the one with the most abundant elements, most of the houses containing all four categories of ornaments. This could be explained by the material abundance, especially wood and easily sculpted stone (containing high amounts of limestone). Even though the principality of Moldova never held land on the eastern bank of the Nistru river, the architectural aspect and symbolic ornamentation was stunningly similar with the central region (Salmanovici, 1947).

It is equally important to note the way ornaments were applied on houses. The simplest one was via the application of a blue paint called sineala (Slav phonetic provenance) (Maier, 1979). This paint would dry and be reapplied every year on the facade of the houses. Usually, floral motifs were applied with paint. Geometric elements on the other hand have found their place in wooden pillars (*figure 13*). The abundance of wood in the central regions of the country fostered able craftsmen to apply this ornament in wood, mostly seen on the front side of the house - balustrades, pillars, window frames and doors. Besides this, the central zones also had a vast region rich in limestone - Orhei Micro zone. This allowed the development of stone carving

and sculpture of housing elements. An example are the stone front galleries that substituted wooden porches, though similar in abundance and typology of ornaments (Tamara Nesterov, 2007). Thus, it can be concluded that ornaments were applied in both wood, stone and painted on the facades.

Dimensions and Components of the traditional and moldovan houses

Dimensions

In the chapter on traditional moldovan houses, the influence of the fireplace was described in correlation with the rising dimension of the living area. Thus, a typological explanation will shed light on the dimensions and development of the components that represent the architectural identity of Moldovans⁸.

The *bordei* (hut) were the primary evolution of moldovan houses, consisting of one room with an open floor fireplace located in the middle - *vatră* (Hâncu, 2016). Most of the information about this housing typology is gathered from archeological studies of the land and no clear information is given in regard to their facade, however it is known that this type of houses were either circular or orthogonal, with a surface area around 4-5 sqm. And a total height of 2 meters, although in some cases 50% of this height would be underground, for comfort purposes (Ghimpu, 2006). This type of houses would cease to exist completely in the beginning of the 20th century, although in some estates, they could be found transformed into storages and cellars. Thus, the basic hut transcended into a storage space and later the first wine cellars of Moldovans.

The second typology of houses are the single room houses called “*casa mica*” (Moscow Academy of Science, 2010). These houses had a rectangular proportion, closer to a square with walls made from a wooden filigree structure, finished with clay walls for insulation. According to Silvia Saranuta’s book on Material and Spiritual Culture, a family of 6 children could inhabit this house, on average its dimensions being between 4 and 5 meters in length and approx. 3 meters in width.

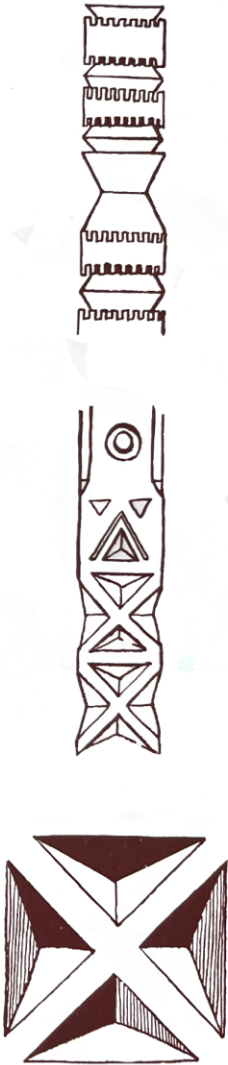


Figure 13 Wooden pillars decoration via the extrusion method.

⁸ Comment mentioned during the interview with Tamara Nesterov on December 29th 2023, Chisinau.



Figure 14 Image of a moldovan residence. The plan is unknown however it can be speculated that the house on the right is a single room type house.

The fireplace would occupy almost 50% of the whole livable surface, it being the place on which everyone slept, and cereals were dried.

The two-chambered house would have average dimensions of 4 to 6 meters in length (front facade and porch) and 4 meters in width (porch included) (Nesterov, 2019). This type of

houses would be seen more frequently in the northern regions. The two rooms would be equal in dimensions, one of them being used for storage, guest room, and the other one representing the main living quarters. As a rule, these houses would have 2 windows on each side of the entrance - located in the center. The windows did not

open and would have the sole function of providing daylight in the space.

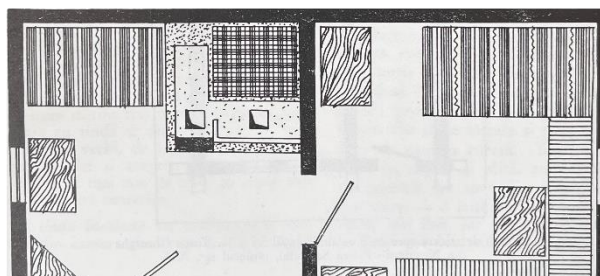


Figure 15 A double-room house with its subsequent floor plan . Podoleni, mid-19th century.

The three-room house represents the last evolution of moldovan traditional residence, it is appearing in the end of 18th century. According to Tamara Nesterov's paper on Orhei's Architectural micro zone (a scientific study with the goal of determining the dimensions of moldovan residences of 19-20th centuries), a field study has been organized that would conclude in the first systematization of moldovan traditional proportions. An overall 27 houses have been measured. All the houses

represented the last evolution of moldovan house, the tri chambered house, which reached its culmination in the mid-20th century.

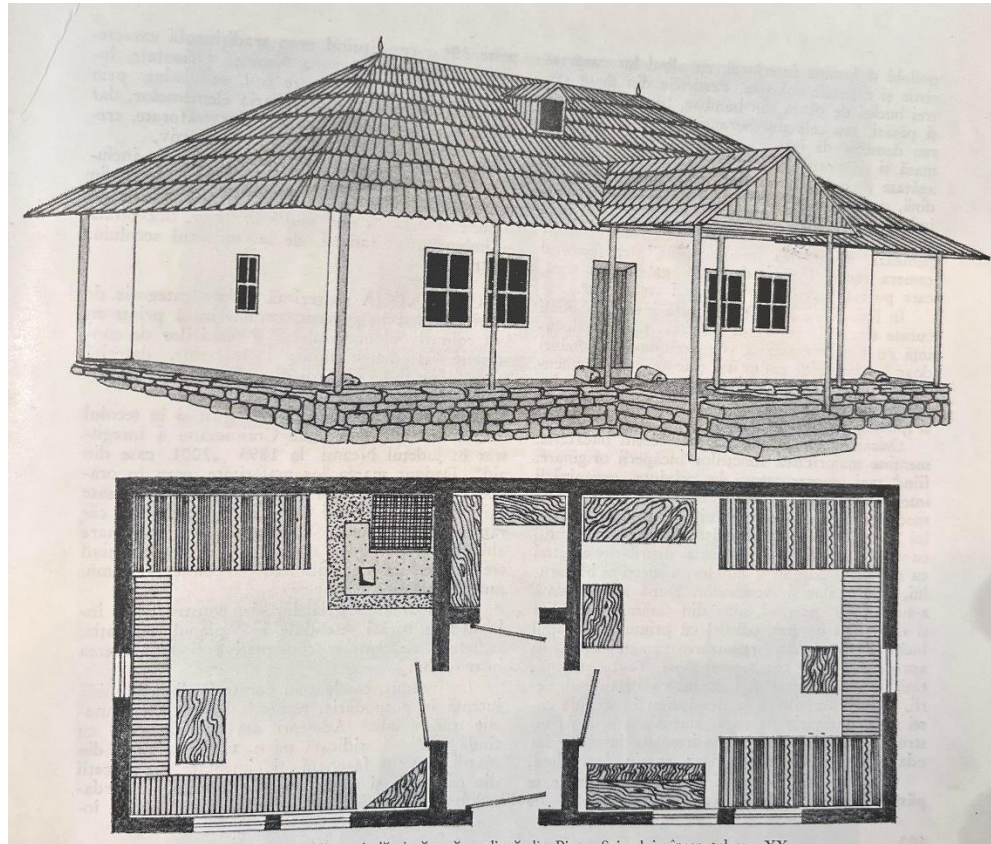


Figure 16 Tri Chambered house from mid-19th century, Moldova. Here the porch is not decorated, however one can see the stonework or adobe work from the foundation level.

An interesting finding of this study was that at a margin of 80% the proportions had the golden ratio in mind. What makes this finding more interesting is that after a thorough interview and questionnaires with the house owners (and almost all the owners had built or remember their fathers building the house) almost no one knew about the golden ratio, answering the question “how did you come up with the dimensions/proportions?” with “I don’t know” and “Everybody did it like this”. These



Figure 17 Stone house from Orhei micro zone with a golden ration proportion on the plan

types of houses bore the biggest amount of decoration, and due to their late appearance in the cultural history of Moldova, a lot of authentic examples remained untouched, although most of them succumbed to the world wars (Tamara Nesterov, 2007).

Components

A component is defined as the architectural element, detail or group of elements that generate an identity characteristic of Moldovan culture or a certain region from the country. Since this study encompasses the moldovan dwelling, it is important to additionally include the parts that are present in the estate or close proximity to it, such as the border, additional extensions or separate structures, such as the gate, cellar etc. (Postica, 2006)

Besides that, to create a more precise representation of all the components, only the final evolution of the moldovan will be discussed - the three chambered house (tricameral dwelling).

The main components of a moldovan dwelling are:

- The porch - encompassing the balustrade and pillars, sometimes the roof trim as well;
- Gate - an important component that is heavily decorated in moldovan villages;
- Roof trim and gables;
- Bordei - in this instance it will not be characterized as a residence but rather as the initial form of the storage/ wine cellar;

The porch

It can be argued that the porch is the most important component of moldovan architecture (Moscow Academy of science, 2010). Located in the front and spanning the whole facade width, it is the most decorated space of the exterior. Usually, it would be built out of wood, with a stone foundation. When stone was scarce, a mixture of clay and soot would be used. The porch would represent a gallery with load bearing pillars that would transfer the load from the roof via a beam. It can be divided into two subcomponents: the pillars and the balustrade.

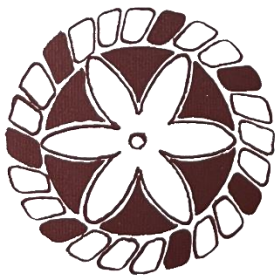
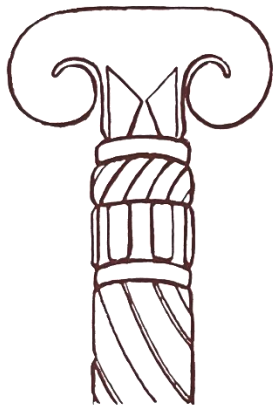
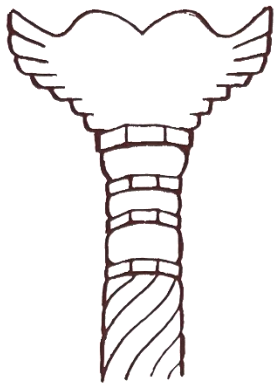


Figure 19 Stone columns found in Orhei Micro zone; morphology similar to the ancient Cucuteni Tripolie civilization.



Figure 18 different types of porch pillar ornamentation from Central and Northern Moldova in the 19th century

prehistoric culture of Cucuteni-Tripolie, the oldest civilization of Eastern Europe (inhabited the territory of Moldova, Ukraine and Romania). These types of pillars would bear the symbolic role of protectors of the hearth and would be seen more in the southern part of Basarabia. The top part of the pillars would also be the place where floral or zoomorphic ornamentation would be seen, such as a pair of horses holding the top beam with their heads or flowers carved in the console or simplified rosettes showing the sun or a flower, symbolizing the spring or life. In some villages in the central region of Moldova the pillars would have a combination of ornaments, thus telling a certain story or old myth, such as the myth of the tree of life. The balustrade would also represent a set of carved posts that would represent an anthropomorphic image of the man or just geometric shapes. In some cases the balustrade would be made out of stone. In this instance, ethnographers found frescos with floral motifs or geometric shapes that would tell a certain story.⁵

Gate

Almost all the moldovan gates were made out of wood, because of the short lifespan of this material only several gates have remained on the territory of Basarabia, the rest of them being seen in the western region, behind the Prut river. (Șaranuța, The material and spiritual culture of Romanians from Basarabia c. XIX-XX: sketches and ethnographic notes, 2019) The gate would be composed of the large gate - for carts and open during festivities, and the small gate - a door-width entrance (Florescu &

The artistic processing of wood was one of the oldest occupations of the local population, intrinsic shapes have been developed and used in architecture, the pillars being the main bearers of such art. The most usual decoration of pillars (both wooden and stone) was the geometric shapes and simplified images, for example the usage of carved triangles represented nature and the pillar would be seen as a tree. A more complex shape of the pillar would be the shape of two snakes entwined into a column - a motif seen for the first time on the pottery of



Figure 20 Gate with geometric and floral ornaments (including the tree of life) found in Central Moldova) 1992

Buzenschi, Wooden craftsmanship from Neamt region, 2016). Three or two pillars would hold the whole construction and be crowned with a small roof of 1 meter in width and variable length that would create a cover for the whole construction. By rule the three pillars holding the gate structure would be decorated with anthropomorphic shapes or human faces simplified with the usage of geometric shapes (figure 11). In other cases, the gate would be a simple surface adorned with basic shapes such as a rhomb or other geometric shapes.

In other cases, the gate would be a work of art, showing the mastership of the carpenter. In the beginning of the 20th century the wooden pillars would be substituted with square like columns made from limestone or adobe bricks (Zagaievski, 2000).

Roof trim and gables

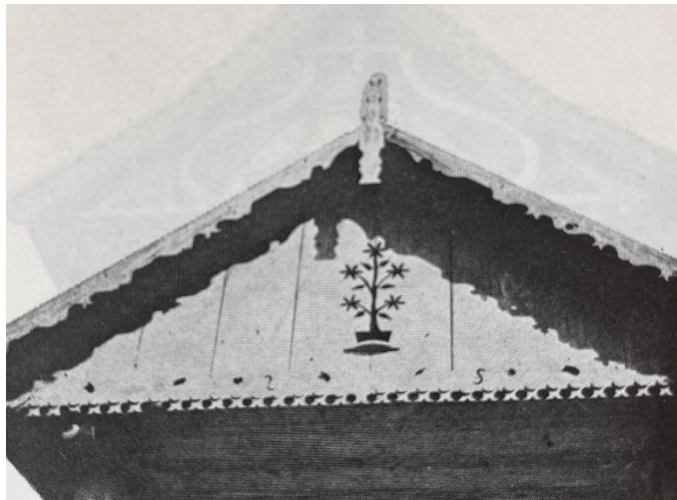


Figure 21 Roof pediment with the tree of life symbol on it. Luminis village, Moldova

The main material for roofs in the medieval times was the reed or straw (Moscow Academy of science, 2010). Bundles of such dried plants would be attached to a slender structure of rafters and posts. In some villages of Bucovina (and Northern Basarabia) (Bairak, 1986) these types of roofs would be decorated with the manipulation of

such bundles - in some places they would be placed more abundantly and thus create

intrinsic shapes of the roof. Since this was the main material for roof construction for centuries, when a village would be listed in the chronicles or pay their taxes, the surface of growing reeds would also be considered as one of the key assets of the estate⁹. In other cases, local churches or monasteries would grow reeds and create straw bales for roof and subsequently sell or barter it to the villagers (Postica, 2006). The one ornament that would always be present on the roofs would be the two horses on the top part of the construction. They would be joined with the top rafter or column that held the whole structures.

With the appearance of wood shingles in the 19th century, more decoration started to appear (Florescu & Buzenschi, *Wooden craftsmanship from Neamt region*, 2016). Shingles themselves, would be carved via subtracting triangles or half circles from the sides to create a more decorative shape. It was in this time that roof gables were integrated in the construction, although dominating the southern regions more because of the roof shape of present minorities (Bulgarians and Gagauz people) (Maier, 1979). The gables were adorned with shapes of birds or geometric shapes by method of material subtraction. The bird is a motif seen more in Slavic civilizations but given that it is used more in Bulgarian villages of Moldova it would be a logical deduction that this is an imported ornament. The roof gables would also have a spire mounted on the top, sometimes showing a flower, a human silhouette or geometric shape.

The bordei (now wine cellar)

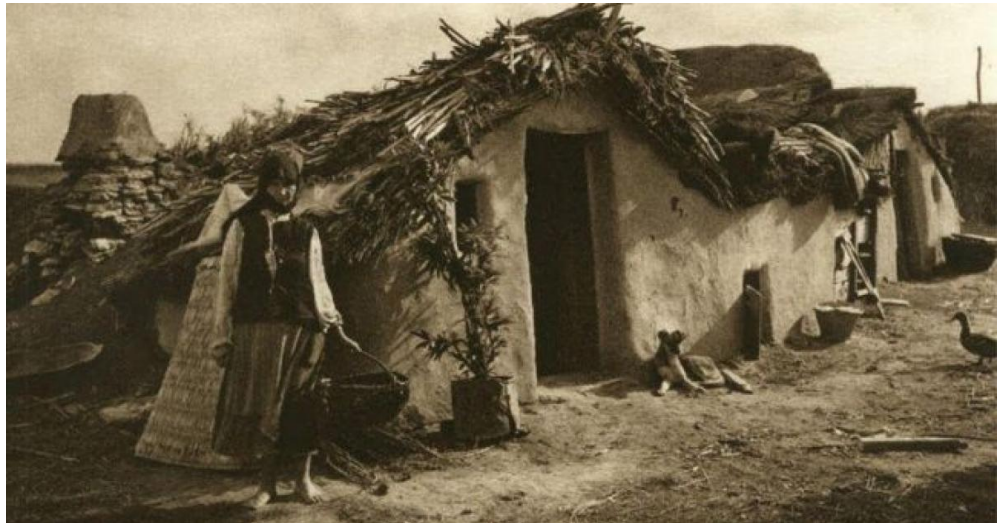


Figure 22 One of the last bordei residences in Moldova photographed in the beginning of the 20th century.

The huts as a residential structure ceased to exist by the end of the 18th century as the quality of life rose and the people had better building technology.

⁹ Tamara Nesterov and Silvia Șaranuța mentioned on 29th of December 2023 during the interview about the taxes on reeds and straw field, moreover it is confirmed in the book *DESCRIPTIO MOLDAVIAE*

According to Silvia Saranuta's book on Material and Spiritual heritage, the *bordei* would start a process of transcendence into simple huts for storage, and outdoor cooking, very frequently seen near a newly built tri-chambered house or other estate.

Moldova has been famous for its grapes and wine culture since medieval times, its soil (chernozem) being one of the most fertile soils on earth [source]. Until the 17th century, farmers and other villagers did not have the opportunity to grow grapes, as it was an endeavor more characteristic of the noble houses and wealthy people. Nevertheless, in the 19th century the first cellars appeared in the rural estates of simple villagers. These cellars would be dug in the soil at a depth of 1-2m. The building method is completely like the building method of the ancient *bordei*'s, however in some cases, adobe bricks were substituting the branch-and-clay walls. Sometimes men would decorate the cellars with carved in clay rosettes or floral symbols symbolizing abundance.

Regional and Ethnic Characteristics of Moldovan Architecture

From the 16th to 19th centuries, Moldova has been under occupation, vassal ship and subjugation of many empires: Habsburg, Ottoman, Poland Lithuania Commonwealth and the Tatars. Some regions were occupied simultaneously by two powers (ex: from 1774 The northern region of Bucovina and the southern region of Bugeac has been occupied by Habsburg and Ottoman Empires consecutively). One could argue that this led to a different development of the regions in terms of infrastructure, economy and minorities (Moldovan Academy of Science, 2015). This resulted in creation of a non-homogenous architectural expressions in different regions, some houses changing fundamentally their shape or appearance due to influence of the minorities, different building technology or colonial favoritism¹⁰ implemented by the Russian Empire after 1812. According to the UNESCO paper on cultural diversity in Moldova, there are three architectural regions: North, Center and South, although some architectural historians¹¹ do not concur with this division. In

¹⁰ Colonial favoritism or colonial rights were a system instituted by the Russian Empire that effectively meant granting more land, tax and military exemption and other benefits to the people migrating in Moldova and completely obstructing these rights for Moldovans and other minorities that existed here before 1812.

¹¹ During the interview with Tamara Nesterov and Silvia Șaranuța it was mentioned that a group of ethnographers, historians and architects debate the division in 3 regions and suggest the division in 5 regions (thus including the Orhei micro zone and Transnistrean region of Moldova)

this paper, a more generalized approach will be taken , hence the architectural characteristics will be discussed in three regions.

Architectural and ethnic characteristic of the North



Figure 23 Wooden house characterizing the northern region architecture (Bucovina, Northern Basarabia)

The northern regions encompass the territories of Bucovina, Northern Basarabia and reach the Orhei region in the center. From a geographical perspective, the region was abundant in building resources- stone from the Prut and Nistru rivers, wood from the ancestral Codrii (forests) and metals from the north. Due to

Austro-Hungarian occupation, infrastructure and metallurgy was developed (Ciocanu, 2007). Besides Moldovans, there were a lot of Jewish, Ukrainian and Polish inhabitants. Just like the central and southern regions, the most dominant housing typology was the single room houses that reached an area of 6 meters in length and 4 in width. On the other hand, the northern regions had very distinctive roofs made from hay or reeds¹². This tradition was kept even after most of the houses in the center and South used shingles and ceramics for their roof finishing (Larionescu, 1997). Another characteristic of the northern houses is their entrances, and windows, which would be oriented towards the south. Central and Southern Regions did not have a strict house orientation¹³.

In the period of Ottoman occupations, Jewish minorities were not granted much land (Moldovan Academy of Science, 2015), hence they focused on commerce and craftsmanship. An ethnographic field study researching 19th century residential developments found a new typology that was characteristic for the Jewish community.

¹² In the Interview, Silvia Șaranuța mentioned that during an expedition to the northern regions, a lot of houses were discovered that had very decorative roofs made of hay. The builders would create bundles of hay or reed and stack them disproportionately on the roof, thus creating small “mounds or prolonged regions of hay that would generate more intrinsic shapes and play a decorative role without obstructing the waterproof and thermal properties of the roof.”

¹³ Taken from the same interview.



Figure 24 Traditional Jewish house with an extension overlooking the road and connected to the gate, is seen that it stands out from the house by implementing vibrant colors and geometric ornamentation.

It was discovered that the Jewish merchants would build an extension towards the edge of the house (Figure 24). This extension would be built out of stone with large windows for exhibiting certain goods. It was also for the first time when shutters appeared in Moldova. They had a purely protective function, and the other inhabitants would not use shutters - nails were still a rarity and too

expensive for them. This space would have an entrance from the street and another one built inside, thus creating access to the house.

The Ukrainians/Cossacks had similar houses to Moldovans, with the only difference being abundant floral decoration of the facade with a blue paint (sineala).

As Saranuta's book describes, the north was a more affluent region. Due to the abundance of sun, the southern regions were focused more on growth of fruits, wheat and other cereals, while the north would grow more valuable products, such as nuts, cherries etc. Thus, new architectural interventions have been implemented earlier than in other regions¹⁴. An example is the usage of metal sheets in some of the wealthier estates - a technology seen in the 19th century only in the capital city - Chisinau.

Although the region would be considered as the most affluent one, it still possessed the biggest number of huts, predominantly located on the shore of Nistru river (Ciocanu, 2007). This occurrence is explained by the fact that the Nistru shores were the regions that suffered the most from enemy invasions and sudden attacks, thus bigger estates would be rarely seen there. Thus, the population census from 1772 still shows that in the northern region of Soroca (dominantly located on the Nistru shore), from 4096 existing estates, 169 of them were still huts (Dragnev, 1992).

¹⁴ Taken from the interview on 29th December 2023. Chisinau.

Despite the differences in the building shapes and material usage of the Northern houses, the key components remained. Every house would have a porch, a wooden decorated gate and decorated roof trim and gables.

Architectural and ethnic characteristic of the Center

In the 19th century, the central region was the most densely forested area from the province of Basarabia. The Codri's stretched from the northern hills of Orhei region until the southern plains of Căușeni domains. Just like the north, the rivers Prut and Nistru provided big amounts of stone and great abundance of timber allowed the local inhabitants to build their houses out of wood for a long time, although in the 17th century, a particularity for the central region appeared - people started to plaster their houses and whitewash them with a mixture of calcium carbonate (*Figure 8*).

Another distinction would be the addition of a stone belt around the facade called "brâu" (belt) which would be finished with a gray paint (whitewash with charcoal, seen in picture 16).

Despite the harsh Russian colonial policies, the local rural population remained predominantly moldovan, most of the migrants coming to the newly established capital of Chisinau (Statnic, 2021). This fostered the conservation of Moldovan culture in the region.

Given the abundance of wood, it is not extraordinary that the most talented carpenters were in the central regions of Basarabia. This is also seen in the architectural identity of the region (*figures 25 & 26*). A beautiful house would be considered one which would have all its walls white, focusing on the intrinsic ornamentation with wood components. The central regions were the first ones to implement decorated roof trims and included sculptured gables on their houses. The porches had sculpted pillars and balusters that would mesmerize with their complexity and mastership. The availability of timber in close proximity and volume stimulated the inhabitants to build bigger houses, in consequence, by the 19th century the majority of the houses were two or three-chambered. The roofing material changed from hay to wooden shingles. Masters would sculpt the shingles by removing some triangular shapes or drilling small holes that would give a much more decorated look to the house. The roof trim would have a spire in a symbol of a horse, tree of life or other local symbols explained earlier.

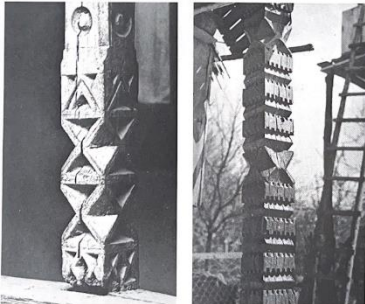
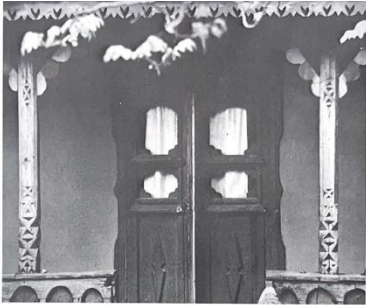


Figure 25 example of exquisite porch pillars found in central Moldova.

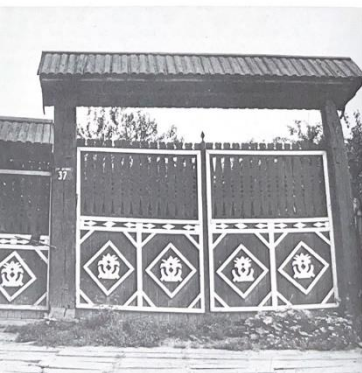
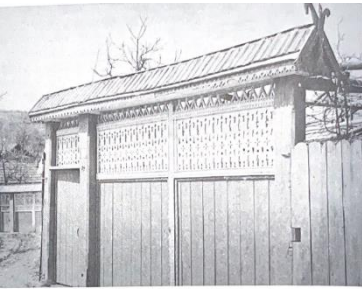


Figure 26 example of intrinsic gate detailing in Central Moldova



Figure 27 Examples of Orhei micro zone architecture (stone porches and local ornamentation)

Besides the densely forested area of the center, there was a micro zone called Orhei. This zone would be abundant in stone and calcareous materials, which would be very easily moldable and sculpted (Zagaievski, 2000). This led to the local population to develop their houses more. Wooden porches would be seen mostly in the poor villages, while the more affluent ones would now have stone porches

with decorations on them, mostly floral and Rosetta's/ geometric shapes (Bâzgu, 2005).

Architectural and ethnic characteristic of the South

In the 19th century, the southern region of Basarabia was the most colonized region. By edict of czar Alexander I, the local population of Tatars have been eradicated via deportation or land deprivation, which led to the local Tatars leaving the province of Basarabia. Further, the local government invited Gagauz people¹⁵ (christened ottomans) and Bulgarians. Thus, from 1830 until 1861, the population of Bulgarians grew from 30000 to 87000 (Dragnev, 1992). The same number would be present in the Gagauz population. This growth was fostered by the local laws. While a moldovan family would receive 3ha of land in exchange for burdening taxes and be

¹⁵ Gagauz people were the ottoman colonists that changed from Islam to Christianity after marrying local women or just assimilating with the local population. This minority would populate all the shores of the black sea, from Bulgaria to Crimea and Armenia. Many Gagauz families were forcefully deported to Basarabia with the goal of denationalization of both nations.

obliged to send sons to military duties and wars that the Russian empire fought in the 19th century, a Gagauz or Bulgarian family would receive 6-8ha of land, no military obligation and tax exemption (Statnic, 2021).

Given that the local moldovan population was very oppressed and most of the population in the south now represented foreign minorities, the housing typology changed completely. For the first time the houses would not be shaped in one, two or three rooms but rather in a very long rectangular house where the rooms would be organized in sequence. The corridor was not existent and to get from the entrance to another room, one would have to pass through all the other rooms. The roof would change from hip to open gable roofs. This allowed the local inhabitants to decorate their houses on the gable and pediment thus obstructing other decorations of the facade.

Even though the colonists would get much bigger plots of land than Moldovans, they would still initially live in huts that would be changed subsequently in storages after the family would gain more resources to build a bigger house. Unlike the central regions, the local houses did not have a stone belt around them. Local ornamentation is hardly seen, mostly located on the pediment (see *figure 21*). Here the main ornaments are the geometric ones, the roof trims are decorated with shapes of bird, horses and just spires. Sometimes the pediment would have a fish and two anthropomorphic shapes.

The local region would not have a lot of timber resources in comparison to the north and south, however, it had a dry and sun-abundant condition. This led to people using adobe bricks to build their houses and even ceramic roof tiles.

By the end of the 19th century however, the local minorities started integrating more local components. Porches started to appear on the side of the Bulgarian houses which would have moldovan traditional decoration alongside the Slavic fish ornament.



Figure 28 Southern house drawn by one of Moldova Technical University architecture Students. In here it is seen how the traditional Moldovan house is extremely elongated to find the needs of Bulgarian or Gagauz inhabitants

Conclusion



Figure 29 Map of the Romanian regions finally united: Transilvania with its regions (Crisana, Maramureş and Banat), Muntenia (with Oltenia and Dobrogea) and Moldova (with Basarabia and Bucovina)

In 1917 the Russian Bolshevik revolution reached its peak, resulting in the fall of the Russian Empire. For the first time in over one hundred years the Moldovans from Basarabia gain their independence and decide to reunite with Moldova, which is now a part of the Kingdom of Romania. Finally, in 1918 the Country unified and became one whole with its “sister” countries. Nevertheless, the population that inhabited Basarabia in 1812 went through the fierce process of forceful cultural change. Multiple minorities were populating the country that at a certain point became more populous in the south than actual Moldovans.

To understand the changes that Basarabia Moldovans went through in terms of architectural expression, a comparative study is proposed with the architectural expression of the Western Moldova.

For clarity, the inhabitants of Basarabia region will now be called Basarabians and the inhabitants of Western Moldova will be called Romanians.

Development of Moldovan architecture in Romania

The territory of Moldova after the “Rupture of Basarabia” remained under Ottoman rule even though the ottoman influences greatly diminished after the defeat of the first Russo-Turkish wars. After a series of rebellions and continuing deterioration of the Ottoman Empire, Moldova and Romania gained their independence by choosing in both states the same Domnitor (Prince)- Alexandru Ioan-Cuza. This led to the Constitution of the First Romanian Kingdom in 1848.

It is evident that before the Russian Occupation of 1812, both Moldova and Basarabia had the same architectural expressions, with slight differences due to their regions (Florescu, Vernacular Architecture from the Neamt area, 1983) (for example

higher roof pitches near the mountains due to heavy snowfall). In those regions, the main material was still wood, as this was the most available material for villagers. The houses resembled moldovan houses from Basarabia region, using the same building technology for wooden structures and intrinsic decoration of the porches. The houses would be raised from the ground via the usage of stone boulders of a mixture of compacted soil and branches to level the floor. This is the same technology the Basarabians from the central regions used for their houses.

The author Elena Florescu presents some rudimentary houses seen in the moldovan region from the early 19th century that show the usage of both timber and stone bases, and most importantly - the rudimentary porches with pillars and decorations. The book also highlights an album of photographs taken in the 20th century with important local elements used in construction, decoration and objects

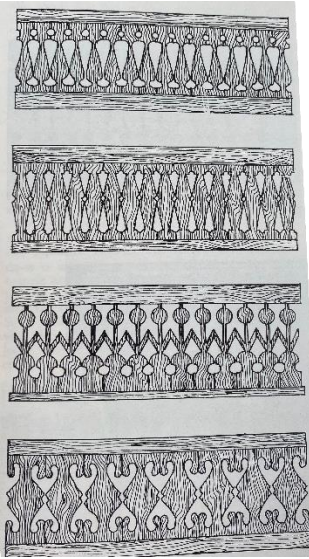


Figure 30 Balustrades example from Elena Florescu's book

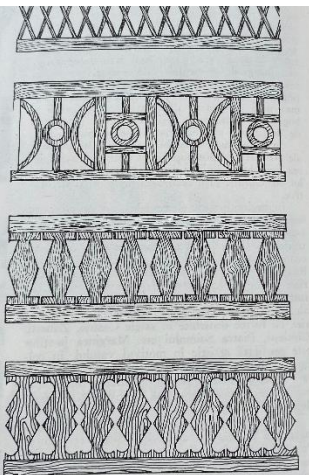


Figure 33 Balustrade examples from Elena Florescu's book

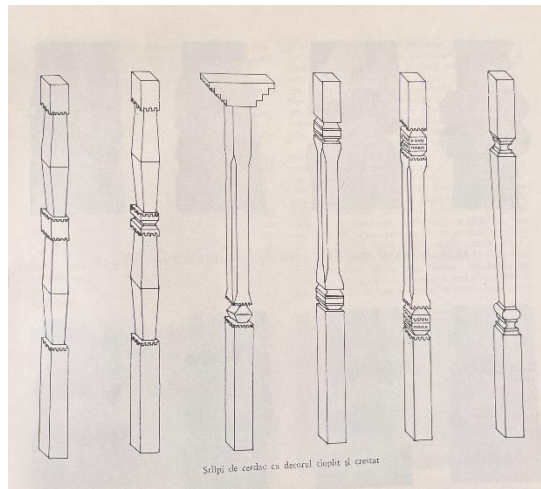


Figure 32 Pillar examples from the same book

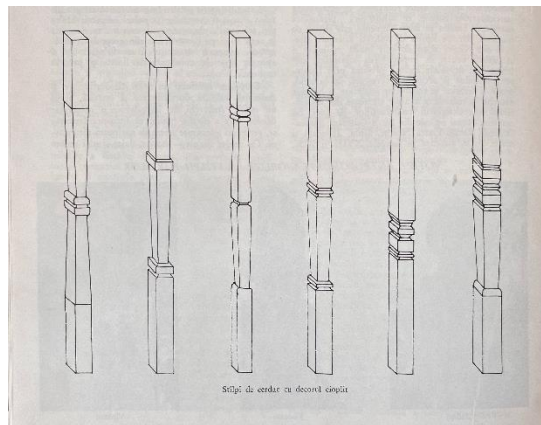


Figure 31 Pillar examples from the same book

of artisanship (figures 30-33).

Overall, the local architecture developed in terms of craftsmanship, creating more complex decorations of the typical moldovan residential components (the porch, gate, cellar or roof). With the development of infrastructure in the years 1866-1890 A vast number of villages moved or appeared along the main roads that traversed the whole province of Moldova (Florescu & Buzenschi, Wooden craftsmanship from Neamt region, 2016). This led to a big architectonic change of the villager's houses, as they tried to imitate new elements and decorations seen in the cities. Houses became much more spacious with the porch decorated in the townlike fashion, massive stables of beams, solid fences and big gates which were the testimony of the more favorable economic and social situation of the freeholders¹⁶.

Comparative study of Moldovan architecture in Basarabia and Romania

Undeniably, both East and West parts of Moldova experienced different developments in the 19th century. The Western part developed in terms of their national heritage of the past centuries, perfecting their craft and especially carpentry, while the Eastern region (Basarabia) was exposed to major cultural oppression that culminated in the interdiction of Romanian language and Latin alphabet in 1867 (Dragnev, 1992). Nevertheless, Basarabia developed its cultural heritage in terms of diversity of architectural typologies due to the constant flux of minorities and the building technology they brought.

In terms of ornaments, the Western part improved its craftsmanship by creating increasingly complex forms, ornaments and subsequent work methods while Basarabia kept its ancestral style and simple shapes of geometry; it can be especially seen in the decorations of porch pillars between the two regions. Differences are also spotted in the interior design of the houses, and particularly spatial organization, Basarabian houses having one or two lines of symmetry in the plan, while the Moldovan spatial organization from the west developed into a more asymmetrical fashion, though keeping the same spaces and their subsequent function (tinda, casa mare and camara).

The biggest difference between the two parts of Moldova is their demographic composition that led to the development of multiple architectural

¹⁶ Freeholders were the villagers that were free from their Boyar (Lord) and were given an allotment with full rights to it. In Elena Florescu's book they are described as the keepers of the vernacular traditions of Preparation Moldova.

iterations of the same moldovan style with either new additions or changes in ornamentation. While Western part of Moldova achieved its rebirth as a part of Romania, meaning no oppression of national values, cultural heritage and local population, Basarabia experienced a steep population rise on account of the big flux of forced migrations (The Denationalization politics in Basarabia | Art-emis, 2011). Nevertheless, it is known from the chronicle *DESCRIPTIO MOLDAVIAE* that Moldova has always been a country with multiple minorities because of its status of “buffer-state”. Besides that, it is known that the Ottoman Empire, with the decline of Moldovan principality (starting with 1504) forced upon the population oppressive measures¹⁷. However, in terms of culture and national identity, the Russian Empire managed to damage more than the Ottoman Empire in over three hundred years. Subsequently, a question arises: How come the Minorities of the 19th century have such an influential factor in the cultural development and transition of Basarabia in terms of Architecture?

The answer is, of course, not a direct one but rather a collection of factors. First and foremost, based on the *DESCRIPTIO MOLDAVIAE* book, in the chapter on the kingdom’s administration it is written that the majority of minorities like Germans, lechs¹⁸, Cossacks, Albanians and Jews were mainly employed in the administrative sector of the country, thus not many villages were actually established by them or their communities did not impose their way of life¹⁹. Moreover, the Ottoman Empire did not allow its citizens the right to own land in vassal states or to build mosques (an exception is the fortress of Ismail and Cetatea Alba (the White Fortress, now Bilhorod-Dnistrovsk in Ukraine).

To sum up, the Russian Empire was harsher and employed much more radical policies against the local inhabitants and even resorting to the destruction or deportation of the local minorities.

Therefore, from an architectural perspective, the local population was developing its architectural heritage “with an impairment” in terms of availability to build, possibility to work as craftsman as opposed to the newcomers, who on the contrary were incentivized to develop their cultural identity in this new land, thus creating their own architectural style and developing it side by side with the local style and in some cases fusing with it.

¹⁷ The Oppressive measure initiated by the Ottomans meant that Moldova had to give an excruciating amount of gold, cereals and bovines per annum. The moldovan youth will have to fight in all the wars held by the Ottomans no matter the land (but in central Europe). The monarch’s sons will be educated in Istanbul and will become Sultan's Bodyguards.

¹⁸ People from the Polish-Lithuanian Commonwealth (poles)

¹⁹ Silvia Saranuta’s Interview: an example of the village of Gavanos located in the northern region of Moldova - a village where 70% of the population was of Czech provenance, did integrate in the moldovan way of life, thus having traditional moldovan houses and speaking the local language.

Was the Russian denationalization policy successful in terms of traditional Architecture?

The Russian Empire, like any other empires, was a multinational state with a long history of subjugation of other nations. An example can be the division of Poland which was played in the same way the Rupture of Basarabia happened. Given its experience with province occupation and its integration in the empire, it would be abstract to say that the well sharpened policy of denationalization could not work on the territory of Basarabia. The comparative study discussed above showed that the local architectural identity, although well detached and independent from other architectural motifs of the new colonists, experienced a period of stagnation in comparison with the Carpathian Moldova. Nevertheless, it is important to acknowledge the fact that the local culture diversified with incoming minorities and created something new, thus not letting itself be forgotten. The Russian Occupation also developed the local population, however mostly in the urban fabric, the famous masterplan of Chisinau devised by the Italian architect Bernardazzi²⁰, the construction of multiple palaces and libraries in the capital. It is nevertheless a part of the nation's history that must never be forgotten and understood.

²⁰ Bernardazzi's plan was to develop the new capital of Basarabia (Chisinau) into a province center, thus a complete urban masterplan was devised that consisted of quadrant-like organization of streets and lots like Cerda's plan of Barcelona.

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