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Valorisation of Cultural Heritage through the Carpathian Cultural Route

TRAINING MANUAL

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The training manual presents the theoretical and practical foundations of cultural heritage valorisation in the context of sustainable development. It comprises four training modules: wooden churches of the Carpathian region; museum exhibition methods; restoration of wooden heritage monuments; and intangible cultural heritage - its safeguarding and use in contemporary society. Particular attention is devoted to developing the Carpathian Cultural Route as a cross-border tourism product of Ukraine and Romania. The publication is intended for students, researchers, and professionals in cultural heritage, tourism, and public administration. This training manual was prepared within the framework of project HUSKROUA/23/RS/2.2/006, "Improving the Visibility of Shared Cultural Heritage through the Carpathian Cultural Route" (HICART II).

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TRAINING MODULE
"WOODEN CHURCHES OF THE CARPATHIAN REGION"

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INTRODUCTION

Theologians say that the church is the ship of our salvation, sailing across the restless sea of life, overcoming waves of passion and sin, conflicts and wars. The building of God's temple has a special mission, for here a person leaves behind all worldly troubles, crosses the boundary between the "earthly" and the "heavenly," and spiritually opens to sincere communion with the Creator.

Of all branches of Ukrainian art, architecture – especially church architecture – has long attracted the attention of researchers, and this interest grows stronger every year. The exceptional artistic qualities of our wooden churches allow them to be classified among monuments of global artistic significance.

The wooden churches of the Carpathian region are a unique phenomenon of spiritual and architectural heritage that brings together centuries-old traditions of vernacular building, the art of sacred symbolism, and a deep connection to the natural environment. In the Carpathians, wood became not only a building material but also a bearer of worldview – expressing in sacred structures the nobility of craftsmanship, the local identity of communities, and the distinctive ethnocultural character of the mountain lands.

In Ivano-Frankivsk, Zakarpattia, and Maramureș regions, distinct architectural schools and traditions emerged, each characterized by its structural techniques, planning types, decorative features, and the relationship of the church with the surrounding landscape. From the slender Boyko churches to the expansive Hutsul temples and the tall Gothic silhouettes of Maramureș – these buildings stand as living witnesses of history, spirituality, and the artistic talent of folk craftsmen.

The history of sacred architecture reflects the rises and falls of society itself. During the period of militant atheism, stone and wooden churches were ruthlessly destroyed, masterpieces of icon painting were thrown into the fire, thousands of holy books were lost forever, and liturgical objects were plundered. When a respectful attitude toward sacred art as a national treasure finally re-emerged, it was no longer possible to restore everything that had been destroyed. This makes the preservation of our spiritual and cultural heritage especially urgent today.

The study of folk ecclesiastical architecture is essential for a deep understanding of national traditions, the people's building and artistic culture, and its historical origins. It offers opportunities to address many issues related to the formation of Ukrainian ethnic identity and regional distinctiveness.

Wooden churches are beautiful and authentic monuments in which the national features of architecture are expressed perhaps most vividly. Sacred wooden architecture cannot be viewed separately from its landscape, which acts as an element of composition and shapes the architectural image on par with the structural details themselves.

Today, the Carpathians represent a powerful cultural, natural, and recreational magnet of national – and even international – importance. The presence of rich natural and healing resources made the region attractive for tourism development as early as the beginning of the 19th century. Its cultural diversity, preservation of traditions, and unique architecture continue to attract attention. The richness and variety of architectural forms make this region undeniably unique.

The goal of this training module is to familiarize learners with the richness and diversity of wooden sacred architecture in the Carpathians, to understand its structural and artistic features, and to study its preservation and contemporary significance. Mastering this material will help develop professional skills for analyzing monuments and foster an understanding of the role these churches play in the cultural heritage of the entire Carpathian region.

CHAPTER 1. PRECONDITIONS FOR THE DEVELOPMENT OF WOODEN CHURCHES IN THE CARPATHIAN REGION

This chapter examines the issues of architectural and ethnographic regionalization, the history of sacred architectural development, local schools of church construction, and the structural and interior features of temples.

1.1. Architectural and ethnographic regionalization of the Carpathian region

Architectural and ethnographic regionalization is one of the most complex challenges in contemporary Ukrainian scholarship. Defining clear boundaries of ethnographic regions – taking into account architecture, folk art, linguistic dialects, natural and climatic conditions, and traditional economic practices – is an extremely difficult task. Attempts to map regional divisions based on all characteristics and cultural features of certain population groups inevitably lead to significant differences in scholarly interpretations. Therefore, the most objective approach is to develop regional maps according to each criterion separately. In other words, to establish distinct boundaries for the schools of temple architecture, residential vernacular construction, and public buildings.

Architectural and ethnographic regionalization is the division of territory into ethnic regions according to shared and consistent architectural-planning and structural characteristics of residential, household, and sacred buildings.

The Carpathian region, according to ethnographic research, is divided into several schools of church architecture: the Boyko, Hutsul, Lemko, Transcarpathian, Pokutian, and Bukovinian. These regions display distinct architectural characteristics in their wooden churches. However, drawing strict boundaries between them is neither accurate nor necessary. In areas where ethnographic regions overlap, one often finds mixed and particularly interesting types of churches that incorporate features characteristic of several architectural schools. It can be stated that the absence of sharply defined borders between ethnographic zones results from the shared cultural foundation inherent to the Ukrainian ethnic tradition as a whole.



Fig. 1. Ethnographic regionalization of Ukraine, according to Ya. Taras

The study of ethnographic regionalization, the transformation of traditions, and the systematization of architectural forms remains highly relevant today. Historical and architectural heritage should influence the shaping of modern churches through the interpretation and transformation of traditional forms.

1.2. History of the development of wooden churches

The history of wooden church construction in Ukraine spans the period from the introduction of Christianity to the present day. It is marked by a gradual

evolution of forms and structures adapted to available materials and local conditions, which led to the creation of unique architectural masterpieces, particularly in the Carpathian region. In the early Christian era, temples were built of wood, and over time various types of churches developed, such as triconch and multi-tiered structures, which later transformed into churches with square log-frame plans.

Stages of development:

1. **Early period (10th-15th centuries)**

- *Beginning of construction:* With the adoption of Christianity, churches began to be built of wood, a readily available material in forested regions.
- *Influence of other cultures:* During this period, the influence of Bulgarian and Moldavian architecture is evident, particularly in the appearance of triconch churches.

2. **Renaissance and development (16th-18th centuries)**

- *Unique regional features:* In Halychyna and the Carpathians, distinctive traditions of wooden sacred architecture emerged.
- *Structural innovations:* With the advancement of building techniques, four-tiered and multi-tiered churches appeared, demonstrating sophisticated technical solutions.

3. **20th century and modern times**

- *Decline in construction:* Under Soviet rule, due to anti-religious policies, the construction of new wooden churches nearly ceased.
- *Renewed interest:* Unique examples of wooden churches have survived to the present day, and some are recognized as monuments of global significance and inscribed on the UNESCO World Heritage List.

1.3. Local schools of church construction: Their common and distinctive features

Researchers of Ukrainian wooden sacred architecture have confirmed the existence of several schools of traditional church construction in Ukraine. These schools emerge through the development of specific features in building practices, during which a folk tradition takes shape in constructing churches, dwellings, and household structures. In vernacular architecture, the differentiation of schools occurs based on traits formed in architectural and structural solutions influenced by historical and spiritual factors, religious views, and other determinants that become markers for identifying the architecture of an ethnonational community or ethnographic group.

Ethnic identification of the schools of traditional church construction arises internally within the formation of an ethnic group and is closely linked to its material and spiritual culture. It includes features developed through centuries of building traditions in constructing temples, houses, and farm structures. Before describing the schools of folk church construction in the Ukrainian Carpathians, it is useful to define the term itself.

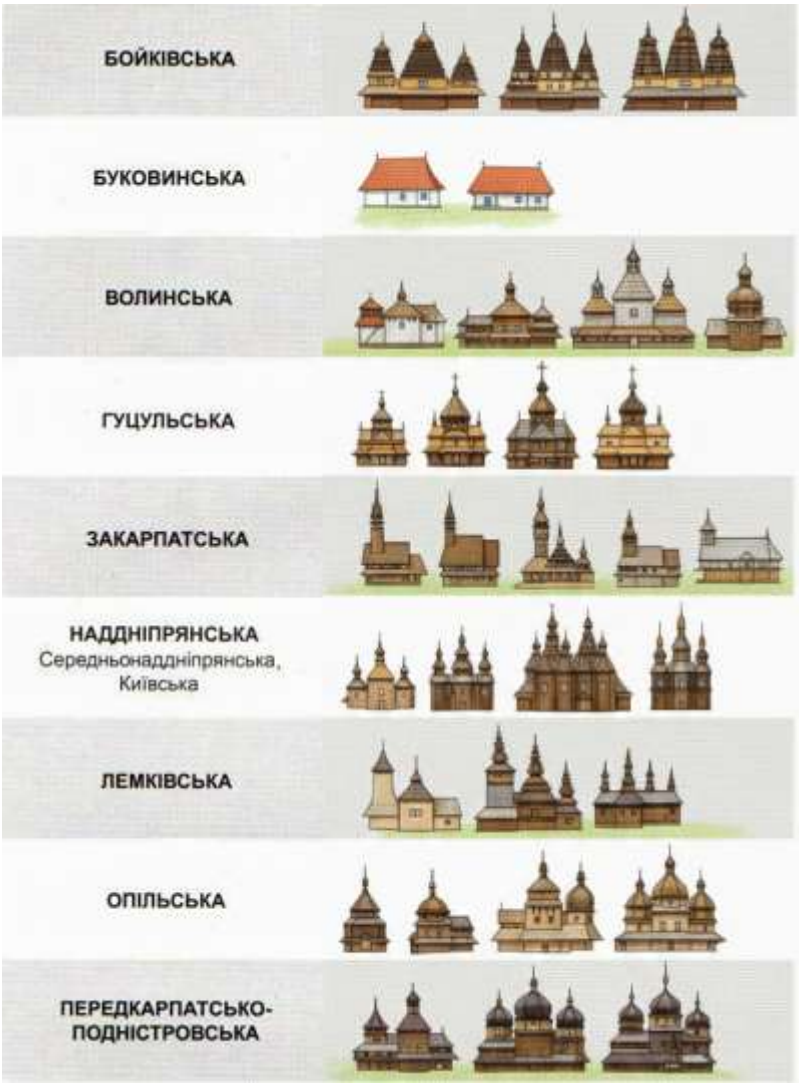


Fig. 2. Schools of Church Construction

A school of folk church construction refers to a set of historically established architectural traditions of church building that are characteristic of certain regions and serve as identifying markers that define an ethnographic or ethnic group. These schools reflect the use of traditional methods or distinctive techniques of shaping space in wood and represent the architectural embodiment of the people's religious ideals and worldview. The local schools of church construction in the Carpathians largely correspond to ethnographic zones. They include the Boyko**,** Hutsul**,** Lemko**,** Transcarpathian, and Bukovinian schools.

The stability of the architectural and aesthetic principles of these schools is explained by the way construction knowledge was passed from master to

apprentice, and by the communal nature of church building, where the community *"pointed to the model that the carpenter had to follow."* This allows us to assert that the original types of churches formed within historical-ethnographic regions through the work of local craftsmen are creations of specific ethnographic or ethnic groups. In Ukrainian church architecture, it is entirely justified to associate the most distinctive architectural and structural forms with particular ethnographic or ethnic groups and to name the churches according to these traditions.

1.4. Basic concepts and terms

To understand the context and specificity of sacred wooden architecture, it is essential to begin with the terminology. This field contains a wide variety of names, forms, and specialized elements that require clarification.

Objects of sacred architecture include:

- churches, belfries, cemeteries, monasteries, chapels;
- crosses and statues;
- memorial sites and places of apparitions;
- objects that complement the ensemble or ensure its functioning.

A church is often viewed as an independent object that requires preservation or restoration. However, the surrounding context is no less important. Disharmonious or inappropriate placement of auxiliary or adjacent structures can affect the overall perception of the site.

To understand the construction features and the engineering–architectural structure of wooden churches, one must become familiar with their main components.

Klit' – a closed square, rectangular, hexagonal, or octagonal log unit, built from planks or beams, serving as the basic building block.

Zrub (log structure) – the primary constructive and planning method for erecting walls of buildings and structures from logs or beams, laid in horizontal rows and joined at corners and intersections with notched joints ("locks").



Fig. 3. Zrub and klit'

Zalom – a structural-decorative element that allows the upper tiers of a church to narrow by placing a truncated pyramid on top of a low log structure with vertical walls, which is then again covered by another truncated pyramid.



Fig. 4. Zalomy, Verkh, and their structural components

Verkh (upper structure / top tier) – the highest part of a building, completed with a tented roof, dome, or another type of covering. The *verkh* was not separated from the interior by a ceiling. In Ukrainian church architecture, the *verkh* becomes a defining element in shaping the spatial and structural design of the church. The number of *verkh* determines the typology of sacred structures. Symbolic meaning of the number of *verkh*:

- One *verkh* – symbolizes the unity of God, the perfection of creation.
- Two *verkh* – correspond to the two natures of Jesus Christ: human and divine.
- Three *verkh* – symbolize the Holy Trinity: God the Father, God the Son, and God the Holy Spirit.
- Five *verkh* – represent Jesus Christ and the four Evangelists.

Banya (dome) – an element completing the structure, shaped as a convex roof similar to a hemisphere or polygon.

Makivka – the uppermost finial that crowns the pointed top of a dome, church roof, chapel, or belfry; it serves as the base for the cross.

Likhtar (lantern) – a small square or octagonal structure placed atop the roof, intended for natural lighting or used as a decorative finishing element of the upper tier.

1.5. Constructions, technologies and materials in church building in the Carpathian region

In the Carpathian region, the log (blockhouse) structural system dominates in sacred wooden architecture. This is primarily due to the availability of forests as a building resource. However, tower structures (belfries) were often built using a frame (post-and-beam) structural system. In general, a building's structural system is a set of load-bearing and enclosing structures that shape the architectural form and ensure its stable functioning throughout its lifespan. In the Carpathian region, two structural systems for organizing the walls and upper structures of wooden churches became widespread: *log construction* and *post-and-beam (frame) construction.* The log construction system is based on building walls from horizontal courses of logs, half-logs or beams, connected with corner joints (notches). The frame system is based on upright posts and horizontal beams reinforced with braces, forming rigid frames.



Fig. 5. Log and frame structural schemes in sacral wooden architecture

A characteristic constructive-decorative element of Carpathian churches is the piddashshia or opasannia – an encircling narrow roof with a slight overhang around the perimeter of the church walls. Its main purpose is to protect the foundation beams and lower log courses from moisture. The roof's overhang is achieved by extending the upper log courses outward, creating a base for the *mauerlat* or wall plate. These extensions were often decoratively shaped, adding aesthetic refinement. The traditional roofing material was gonta – thin wooden shingles shaped like narrow wedges with a longitudinal groove at the thicker edge.

Shingles could have various finishing shapes: rectangular, triangular, trapezoidal or decoratively profiled. Another important element of the façade of a wooden church is the gzymse (cornice) – a smooth, profiled or serrated board placed at an angle under the roof eave. It visually separates the eave from the church walls and also closes the openings between the rafters and the roof.



Fig. 6. A canopy supported by the projecting ends of the log courses, the cornice, and wooden shingles on the walls of the church

1.6. Interior of the church

An integral part of the interior of a Christian church is the iconostasis – a partition wall with icons placed on it. It separates the altar from the main space for the faithful in an Orthodox church. Traditionally, Ukrainian churches have a five-tier structure of the iconostasis, although this is not a mandatory rule or canon. In churches of the princely period, built under the influence of Romanesque architecture, an altar screen was often used – a form that has parallels in the Balkan countries. Iconostases were made of wood, richly adorned with carving and gilding. Icons were painted on wood or canvas using oil or tempera paints. Icon painters of the Galician school often studied the Holy Scriptures on their own, developed the theme, and interpreted it. Thus, icon painting is complex and diverse. The diagram shows the general scheme of a five-tier iconostasis with its main elements and icons.

The traditional scheme of the Ukrainian iconostasis developed gradually, acquiring distinctive features at each stage – features not typical of other

countries. It became fully established in the 17th century. Quite often we encounter certain modifications and additions, but the foundations of a clear iconographic tradition are consistently visible in Ukrainian iconostases. When examining old monuments, it should be noted that different parts of the iconostasis were often painted by different masters and at different times. Icons could be burned, replaced with new ones, or repainted. Therefore, some inconsistencies are not uncommon. Presented here are iconostases from the 17th-20th centuries that most closely adhere to the traditional structure.

I. The Sovereign Row (Namicnyy riad). To the left and right of the central Royal Doors are the icons of the Mother of God with the Child and Christ. The far-left icon most often depicts St Nicholas the Wonderworker, although other subjects also occur. The far-right icon is typically the image of the saint to whom the church is dedicated.

Royal and Deacon's Doors.

On the **Deacon's Doors** (Fig. 5-2), the images usually depict the archangels Michael (on the left) and Gabriel (on the right), the high priests Melchizedek and Aaron, or the Fathers of the Church. Another common variant includes Lawrence and Stephen – the archdeacons. These saints may also be painted on the doorposts of the Deacon's Doors, while the Fathers of the Church are most often placed on the doorposts of the Royal Doors. In addition, Cosmas and Damian or Demetrius and George may appear there. At the tops of the doorposts, one may find depictions of cherubim, Emmanuel, Christ Pantocrator, the Mother of God "The Sign," and others.

The **Royal Doors** (Fig. 5-1) are the evolutionary continuation of the Old Testament veil. Unlike the Deacon's Doors, which any baptized man may enter through, the Royal Doors may only be passed by a clergyman. They are most often decorated with carvings of grapevines containing six medallions: four depicting the Evangelists (Fig. 5-V), and the upper two showing the Annunciation and the Mother of God (Fig. 5-A-B). Sometimes, at the very bottom, a reclining figure appears – Jesse, from whose lineage the Tree of Christ springs. For this reason, a cross is placed at the top of the doors.

In the center is the icon of the **Holy Mandylion** (Fig. 5-10). In the 15th century, it was placed at the center of the Festal Tier above the Royal Doors (as a reminder of the Mandylion legend, according to which the Holy Mandylion was displayed above the main gates of the city of Edessa). In the 16th century, the Mandylion was moved lower, and the Last Supper was placed in its former location. Occasionally the Mandylion is painted above the Deacon's Doors.

II. The Festal Tier. This tier contains the twelve Great Feasts of Christianity, including: *"The Nativity of the Mother of God," "The Entry into the Temple," "The Annunciation," "The Nativity," "The Presentation," "The Baptism," "The Transfiguration," "The Entry into Jerusalem," "The Resurrection"* (or *"The Descent into Hades"), "The Ascension," "The Descent of the Holy Spirit,"* and *"The Dormition of the Mother of God."*

Sometimes additional scenes are included. The icons are usually arranged either in chronological order (beginning with the Nativity of the Mother of God and ending with the Dormition) or according to the liturgical calendar.

The Deesis (from Greek** Deisis**, "Supplication"). In the center is Christ the Almighty, or Christ Pantocrator, enthroned (Fig. 5-8). The row ends with the Crucifixion, flanked by the Mother of God and John the Baptist (Fig. 5-11).

III. The Apostolic Tier. This tier depicts the twelve apostles: Peter, Paul, Matthew, Mark, Luke, John, Andrew, James, Simon, Bartholomew, Thomas, Philip. Interestingly, the apostles traditionally included in the Deesis do not exactly match the list of the twelve disciples in the Gospels. Judas Thaddeus and James the Less are not shown, and Judas Iscariot – who betrayed Jesus and was replaced by Matthias (not to be confused with Matthew) – is also absent.

IV. The Prophetic Tier. Twelve Old Testament prophets appear in circular medallions, each holding a scroll with a prophecy. All turn toward the central icon of the Mother of God "The Sign." This image corresponds to the Old Testament Burning Bush, which held the divine fire yet was not consumed. The prophets glorify the Most Pure Mother of God, foretelling the coming of the Messiah.

V. The Old Testament Forefathers. This uppermost tier depicts Old Testament righteous ones – the ancestors of Jesus Christ (Adam, Noah, Abraham, Melchizedek, and others) – who awaited the coming of the Savior. They symbolize the continuity of God's plan of salvation leading up to the Nativity of Christ. Their images are placed above the local (bottom) tier of the iconostasis.

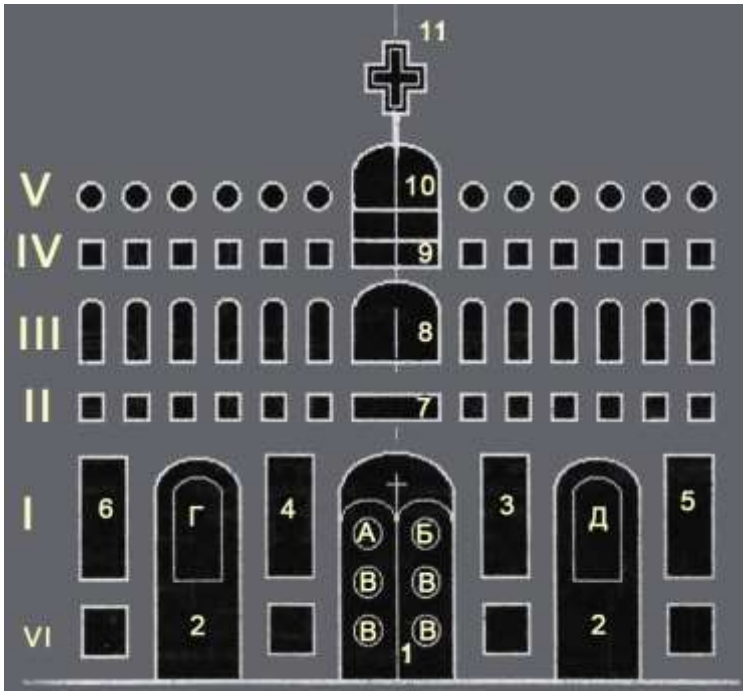


Fig. 7. Diagram of a traditional Ukrainian iconostasis



Fig. 8. The Bohorodchany Iconostasis – a unique monument of Ukrainian icon painting from the Late Renaissance (Mannerism) and Early Baroque period

The iconostasis was created in 1698-1705 by the icon painter and hieromonk of the Bilostok Monastery in Volhynia, Yov Kondzelevych, together with masters of his circle. It was made for the newly built Church of the Exaltation of the Holy Cross of the Great Skete (Maniava Skete) Monastery in Maniava.

Alongside woodcarving, church painting also reached a high level of development. In addition to iconostases, sometimes the walls of the church were painted as well. Artists painted not only sacred images but also genre scenes and portraits. Previously, many monastic schools of painting existed, strongly influenced by Athos. Unlike the miniature style of Russian church tradition, the images in Ukrainian churches were large in scale. The best-preserved examples are found in Bukovyna, Halychyna, Prykarpattia, and Zakarpattia. The oldest icons were always executed in the Byzantine style. Sometimes iconostases were adorned not only with icons but also with carved statues. Such examples were found both in Left-Bank Ukraine and in Slobozhanshchyna.

CHAPTER 2. CHURCH ARCHITECTURE OF THE CARPATHIANS IN THE CONTEXT OF THE SURROUNDING ENVIRONMENT

This chapter focuses on the placement of churches with respect to landscape features, as well as bell towers and other related structures.

2.1. Features of church placement and plot layouts

The placement of sacred objects on a hill or mountain outside a village is rooted in pre-Christian traditions. This principle remained in use from the time Christianity was introduced in the territories of the later Peremyshl, Halych, and Mukachevo eparchies, as evidenced by archaeological research in Halych and the chronicle town of Vasyliv, where churches stood on elevated ground and dominated the settlement. Such placement was adopted from pagan practices during the period of religious dualism, when churches were built on the sites of destroyed ancient sanctuaries. The choice of location was also influenced by the Old Slavic tradition of building temples among ancient "venerable trees" in forests and groves, near springs, rivers, and other sacred sites where an encounter with the divine was believed possible. Researchers of Ukrainian ecclesiastical architecture have noted that "older churches are rarely situated among village houses but usually apart from the village, often on a small hill or even a higher mountain." Carpathian builders, when choosing a location for a church, followed the same principles as their ancestors: *they placed the shrine in a spot that would evoke in the faithful and pilgrims a desire to return to those enchanting corners, stir emotions upon approach, and inspire memories, stories, and praise after departure.* Many Carpathian villages preserve legends about the sanctity of the site or events that led to the construction of the church there. The principle of placing churches on elevated ground was strictly observed and remained in practice for centuries in Lemko, Boyko, Hutsul regions, and other parts of Ukraine, regardless of settlement layout. In nearly every Carpathian village, respondents mention that *the former church once stood in another place, far from the village.*

All this demonstrates that, when placing church structures in the Carpathians, builders did not prioritize convenient access from residential areas but were guided by entirely different factors. The choice of location was originally determined by the defensive and watch-signal functions that sacred objects performed. Carpathian churches of the 15th-18th centuries were built on elevated sites so that visual signals could be transmitted over long distances without obstruction – a fact confirmed by field surveys and cartographic materials.

Research based on the von Mieg map (late 18th century) has confirmed that, up to and including the 18th century, a crucial factor in selecting a location for a church was a plot that dominated the landscape and provided a good line of sight to peasant homesteads and neighboring villages. In the Carpathians, a watch-signal system existed in which sacred structures served as the key nodes.

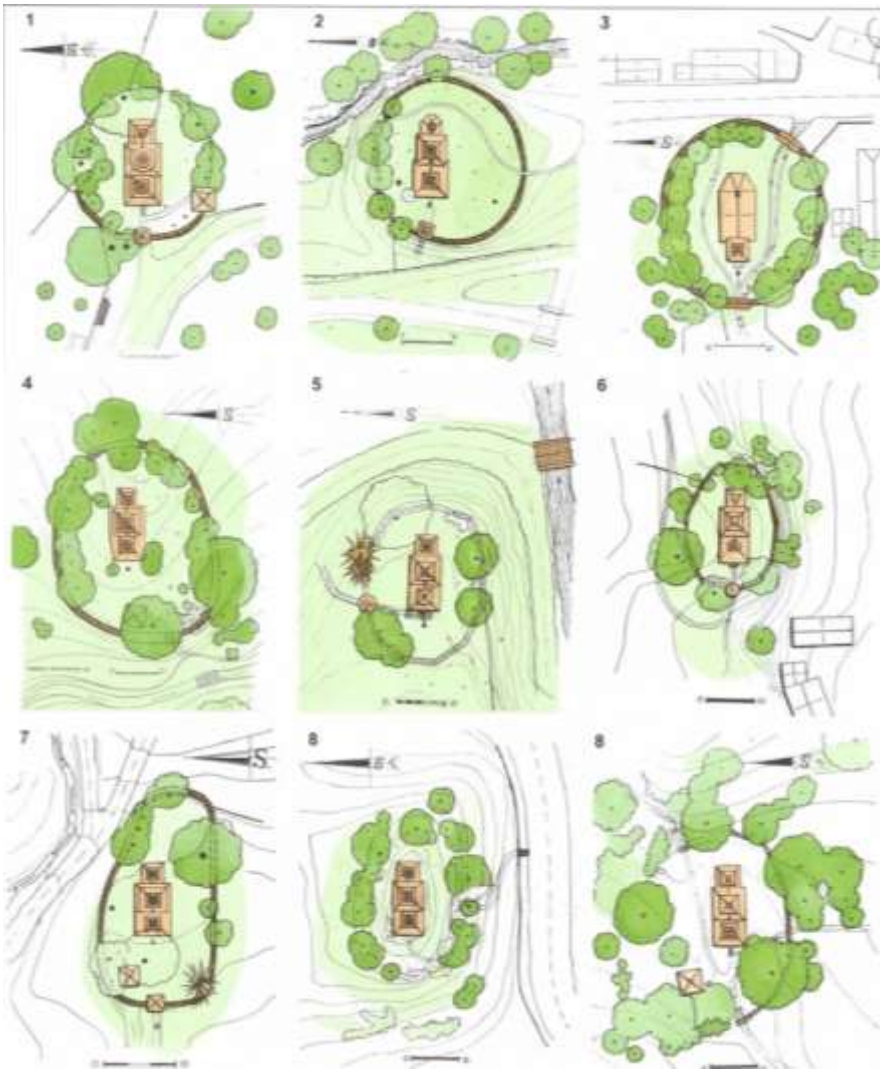


Fig. 9. Plans of plots of Lemko churches

According to cadastral plans, almost until the mid-19th century, church construction in the Carpathians did not take into account a rational connection with village layout. The selection of a church site was based on ancient principles: the shrine had to stand in a place of exceptional beauty; near water (for fire-safety reasons); on a hill or mountain (symbolizing the Christian holy mountains – Zion, Eleon); and had to perform defensive and watch-signal functions, serving as a landscape dominanta. The plot selected for a church also had to be located at a safe distance from residential and farm buildings to prevent the church from catching fire from domestic blazes; the site needed to ensure rapid runoff of surface water from the plot and the cemetery, and it had to have a low

groundwater level to guarantee long-term preservation of the foundations (stenders, piles, pits), base logs, and walls.

There is no direct correlation between the type of landscape, the elevation of the church above sea level, and the vertical compositional design of the structure. Such dependence is not confirmed by examples. Under identical landscape conditions, various volumetric solutions are found: some churches have highly developed vertical upper structures, while others possess only roofs without pronounced vertical accents. The multi-tiered upper structures of Boyko churches, the symmetry and centricity of Hutsul churches, and the asymmetry and downward progression of tiers from the narthex to the altar in Lemko churches are not a direct consequence of visually imitating the symmetrical or asymmetrical ridges, mountain ranges, or silhouettes of fir trees, as claimed by some scholars.

A key aspect for understanding the genesis of Ukrainian wooden church architecture is the study of plot configurations on which churches were originally built. The most complete and reliable information on the configurations of church sites comes from cadastral plans of the first half of the 19th century. Churchyards in the form of circles or ovals are mostly characteristic of sacred constructions from the 16th-17th centuries. The Galician cadastral maps of the first half of the 19th century confirm the wide prevalence of circular and oval church sites during that period. Rectangular church plots are of later origin; they are not typical for traditional ecclesiastical construction and appear in settlements with linear (street-based) layouts, associated with the relocation of churches into the village structure. Surveys of Lemko churches in Slovakia conducted by the Museum of Ukrainian Culture in Svidník in the 1960s recorded that the plots on which existing Lemko churches stand usually have configurations close to a circle or an oval. The most archaic traditions of organizing churchyards were preserved longest in the western Ukrainian ethnic territories – Lemkivshchyna, Pokuttia, Boykivshchyna, and Hutsulshchyna. By the 19th century, these ancient traditions related to churchyard organization began to fade. This was connected with the decline of folk religiosity, the loss of pre-Christian sacred symbolism, and the incorporation of church structures into the settlement pattern, where the configuration of church plots was determined not by sacred or defensive needs, but by landscape constraints.

2.2. Bell towers, fences, small architectural forms

A Ukrainian bell tower traditionally served three functions:

1) It called people to divine services;
2) It was a place for storing various items;
3) It functioned as a watchtower.

The earliest form of Ukrainian bell towers consisted of two posts with a beam laid across them, covered by a small roof. These simplest bell towers were suited

for small bells, clappers, and signal boards. A more advanced form consisted of four uncovered posts topped with a hipped roof.

The village church sometimes possessed items that were not appropriate to store inside the sanctuary itself – for example, grain collected by parishioners for communal meals, honey from the church apiary, or icons from older iconostases. Bell towers were used for storage: they were divided into two parts, with the lower level built solidly in log construction, equipped with flooring, a ceiling, and sturdy doors that remained locked – this was the storeroom. It had no connection with the upper part where the bells hung, meaning it was impossible to climb from the storeroom to the bells. To ring the bells, one had to climb an external ladder. Some bell towers conceal this ladder – particularly those with an *opasannia* (encircling gallery), which was sometimes later enclosed with boards. Tall three-tiered bell towers with a separate entrance often feature an interesting small balcony at the point where the ladder reaches the second tier, hanging above the door to the lower level. These ladders with balconies strongly resemble similar structures found in old Ukrainian castles, fortresses, and towers. Ukrainian bell towers preserved not only decorative elements but also the structural principles of defensive towers. In earlier times, when the threat of enemy attack was constant, the bell tower had to be tall and serve as a watchtower. Ukrainian builders made use of existing architectural forms and the tower construction methods – mostly Western ones – that are best represented in the type of Ukrainian bell towers built on a system of vertical posts.

In the Middle Ages, not only castles and fortresses were used for protection against enemy attacks, but also sacred structures – monasteries and individual churches or cathedrals. Towers were an essential attribute of medieval urban organization. The defensive functions of bell towers are indicated by the presence of semicircular openings (loopholes), as well as sloping walls and widened upper sections of the structure, resembling machicolations. These features are very important, as they show that bells were originally installed on special watch and signal towers built with log or post-and-beam construction. From this tradition, the later use of such principles for bell towers emerged. The use of towers for placing bells in Ukraine may have begun in the 15th–16th centuries, during a period of intensive castle construction. A key issue in the history of Ukrainian sacred architecture is determining whether the bell tower always stood separately from the church, as most scholars claim, or whether at certain periods it was connected to the temple. In the Hutsul region, bell towers were exclusively separate structures, which is tied to the type of church and the period when separate bell towers became customary. In the Boyko, Lemko, and Transcarpathian regions, attaching the bell tower directly to the church is characteristic.

The desire to emphasize the importance of the church within the settlement, along with economic considerations during the Baroque period, led to bell towers being built lower than the churches themselves. At that time, as the defensive

functions of monastery and church towers were lost, the construction of high watchtower-type bell towers gradually ceased.



Fig. 10. Typical bell tower construction

Important elements that complement the ensemble of a wooden church include fences, entrance gates, mission crosses, and chapels. Their stylistic features and building materials complemented the architecture of the churches, serving as contextual components. Stone could be used in the construction of fences. Often, these were low plank fences topped with a small gabled shingle

roof. The gates were also wooden and had more complex roofs with gables and pediments. Special attention should be given to crosses, which were often erected to commemorate various events, such as missions of religious congregations. Cemeteries were frequently located next to churches, and in some cases, graves can be found directly within the churchyard. The monuments and crosses may also hold artistic and historical value. Together with the church, all these elements create a unified architectural ensemble. In urban planning, it is crucial to establish protected zones around heritage sites so that the surrounding development does not become disharmonious or contradict the established silhouette and historical landscape. Preserving the natural topography during landscaping and improvement works is just as important as restoring the churches and bell towers themselves. Equally important in the improvement of sacred architectural heritage sites is the use of authentic materials for fences, gates, and pathways.

Bell towers of Ukrainian churches were always erected separately from the church, as they likely served as watchtowers during Tatar raids. A bell tower resembled a tower composed of two or three square log structures stacked one on top of another, each tier diminishing in size as it rose. The bell towers were finished with a four-sided tented roof, and later with a four-sloped tented roof crowned with a pear-shaped dome.

CHAPTER 3. SPATIAL AND VOLUMETRIC SOLUTIONS OF WOODEN CHURCHES

This chapter examines the specific features of the spatial and volumetric structure of churches, as well as their constructive characteristics depending on the region.

3.1. Principles of forming the volumetric-spatial structure of churches

The analysis of the internal spatial structure of wooden churches – distinguished by planning principles (three-part layouts and cruciform layouts), constructive solutions (fully log-built or partially incorporating frame elements), and characteristics of the development of volumes and spaces – has made it possible to identify their differences and shared features. They differ in that, in churches with a three-part layout, the interior space is divided along the longitudinal axis and develops horizontally when considering the building as a whole, and vertically when each cell (compartment) is examined individually. In contrast, in churches with a cruciform layout, the composition is predominantly centripetal; the central nave becomes the main accent, functioning as an atrium-like space that dominates and subordinates the lateral volumes. Common to both types of churches are the principles of internal and external complexity of form. Seeing such a structure from the outside, in most cases, it is difficult to determine its interior arrangement, because the inner space is always enriched with various decorative elements. From this, one may conclude that the planning principles and the nature of interaction among internal spatial units were influenced by different

factors. Cruciform churches were generally lower in height and located in densely populated mountainous areas. The composition of three-part churches is based on the religious canon of the Holy Trinity**.**

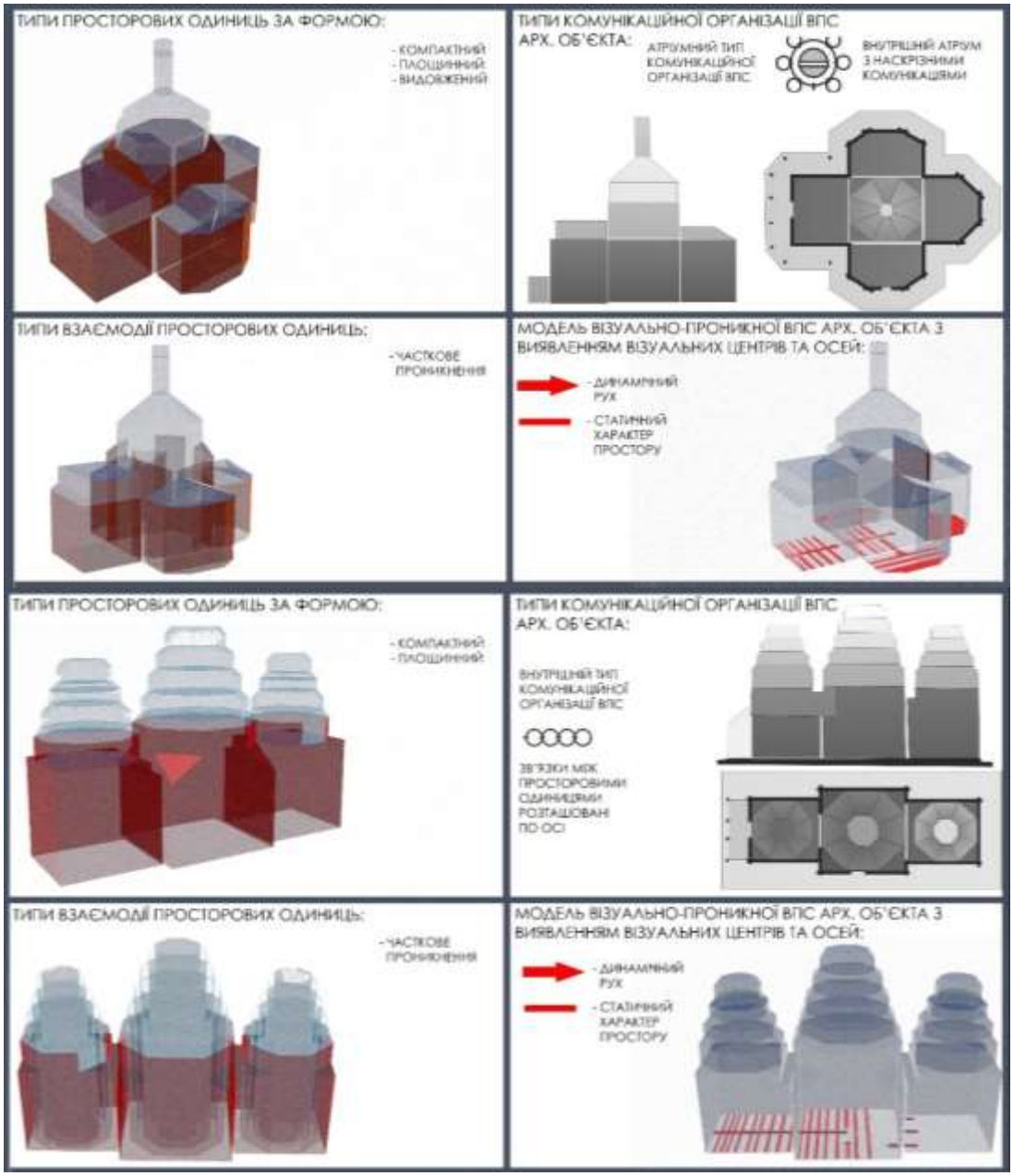


Fig. 11. Features of volumetric design of wooden churches

Thus, we can conclude that in three-part churches, the space develops along the horizontal axis, since the volumes are connected according to the enfilade principle. Meanwhile, in cruciform churches, the space develops around the vertical axis, formed by the central nave.

3.2.Genesis of the planning and volumetric structure of Carpathian churches. Specific characteristics

The genesis of the wooden ecclesiastical architecture of Ukrainians in the Carpathians can be studied only when the theoretical, architectural, and constructive methods – as well as the specific features of forming wooden churches in both plan and volumetric-spatial solutions – are fully examined. To clarify a number of issues related to the development of the wooden church tradition among Ukrainians of the Carpathian region, these churches must be considered not as isolated phenomena limited to a particular area, but as an *organic whole* within the broader ethnographic territory of Ukrainian settlement – a tradition with shared architectural and structural roots.

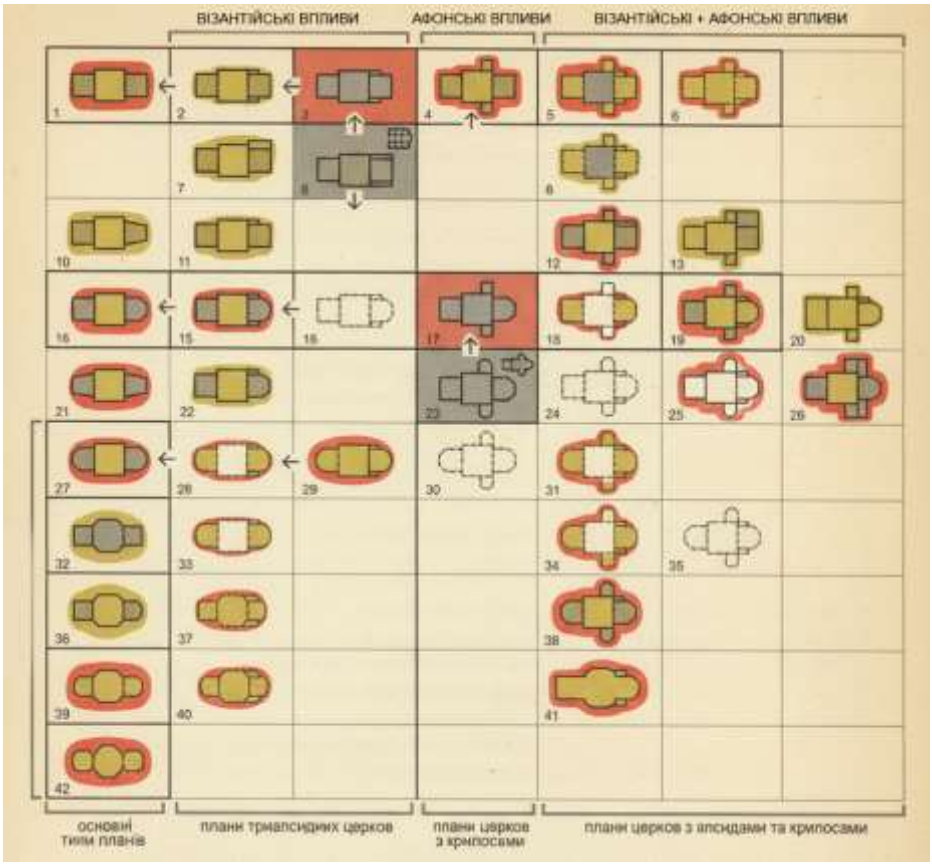


Fig. 12. The Genesis of Three-Log, Three-Part Plans

The principal planning unit of a traditional Carpathian Ukrainian wooden building is a log structure – square, rectangular, or octagonal in plan – formed from beams or *plenytsi* joined at the corners with interlocking notches. Such log units, arranged in a particular order and number, constituted the planning foundation of ecclesiastical architecture in the Carpathian region. The floor plans of Ukrainian wooden churches are developed on the basis of two main schemes: two or three log units placed in a single east-west line, or five spatial units arranged as logs set in a cruciform layout along the east-west and north-south axes. In both schemes, the central part is the nave, the eastern part is the altar, and the western part is the narthex (*babynets*). Under the influence of various factors over time, these planning schemes underwent significant changes in proportions, configuration, and overall volumetric-spatial composition. Their evolution – both horizontal and vertical – led to the formation of numerous distinct types of churches.

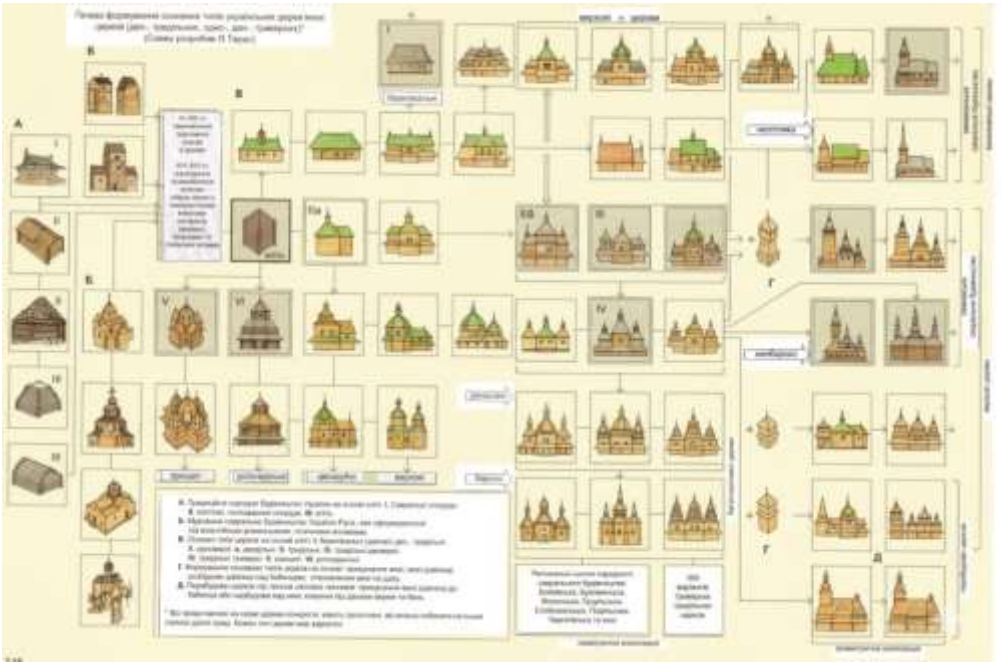


Fig. 13. The Genesis of the Formation of the Main Types of Ukrainian Wooden Churches

Construction on Ukrainian ethnic territories since ancient times has also been shaped by the solutions used for the upper parts of buildings. This is reflected in terms such as *kurin* (hut), *kolyba*, *kolymaha*, *komora*, *klunia*, and *klit*. The simplest dwelling was the *kurin*, which had a tent-like roof. The term *kolyba* points to the antiquity of this type of covering in residential structures. According to various sources, the word has a shared Balkan, Carpatho-Balkan, or Paleo-Balkan origin, borrowed from a Balkan Indo-European linguistic source. It has parallels in

Bulgarian (*koliba*), Romanian (*coliba*), and Albanian (*kaliba*), and is used with the meaning *"tent," "hut," or "canopy."*

All of this confirms that the master builders of wooden churches did not work abstractly on paper, searching for *"proportion and beauty"* in orthogonal projections. Instead, they created directly on site, adapting the material to each specific spatial volume. During construction, they were guided by optical and perspectival principles, which they had the opportunity to observe in practice on completed structures or to sense intuitively.

CHAPTER 4. DESCRIPTION AND LOCATION OF CHURCHES IN THE CARPATHIAN REGION

This chapter presents descriptions and architectural characteristics of churches in the territories of Boiko, Hutsul, Lemko, Transcarpathian, Bukovinian, and Maramureș regions, as well as a list of churches included in the UNESCO World Heritage List.

4.1. Architectural features of local schools of church construction (Boiko, Hutsul, Lemko, Transcarpathia, Bukovina, Maramureș)

The wooden churches of the Carpathian region of Europe represent a unique heritage, consisting of hundreds of temples located in Poland, Slovakia, Romania, and Ukraine (particularly in the Lviv, Ivano-Frankivsk, and Zakarpattia regions). These churches manifest a remarkable diversity of styles (Boiko, Lemko, Hutsul), exceptional craftsmanship, and rich interior iconography. Eight of them are inscribed on the UNESCO World Heritage List. They serve as outstanding examples of vernacular architecture that harmoniously combines technical innovation with the spiritual traditions of Orthodox and Greek Catholic communities.

In the Ivano-Frankivsk region alone, there are 50 wooden churches protected by the state. The oldest among them include the Annunciation Church (1587) in Kolomyia; the Dormition Church (1623) in the village of Pistyn, Kosiv district; and the Church of the Nativity of the Mother of God (1678) in the settlement of Vorokhta, Yaremche district. In the village of Rosilna (Bohorodchany district) stands a wooden church constructed without a single metal nail.

In the mountain villages of the region, three main architectural types can be observed: Lemko, Boiko, and Hutsul. Hutsul churches are characterized by multi-tiered roofs with several spires and a square ground plan. Boiko churches are elongated, composed of three aligned volumes, and covered by a unified pyramidal roof. Lemko churches typically have a single dominant spire placed over the nave, with additional side volumes attached to the main structure, resulting in a cruciform layout.

The most striking example of wooden church architecture is the Church of the Holy Spirit with fortifications in the town of Rohatyn (1666). The iconostasis of the

Holy Spirit Church, created in 1650, is considered a masterpiece of Ukrainian sacred painting.

The wooden churches of Zakarpattia are true architectural gems. Within the region, 118 wooden churches built over the past five centuries have been preserved.

Lemko and Boiko churches have transmitted to us the most ancient traditions of Ukrainian church construction. Boiko-style churches have survived in the upper reaches of the Uzh River. The only classical Lemko church in the region adorns the Uzhhorod Open-Air Museum. Transcarpathian Hutsul heritage is represented by two five-chamber Hutsul churches in Yasini and Plytovate, as well as five churches of the "middle Hutsul" style. The churches with extremely tall, sharp spires in the villages of Danylovo, Krajnykovo, Oleksandrivka, Sokyrnytsia, Neresnytsia, Dibrova, and others represent the renowned Gothic architecture of the Tysa region.

The oldest surviving churches are the two St. Nicholas churches in Serednie Vodiane (1428) and Kolodne (1470). The traditional method of wooden church construction endured the longest in the Mizhhiria district – in Zaviika (1930), Soymy (1934), and Kuzhbiia (1937). The tallest wooden Gothic-style frame belfry stands next to the Reformed Church in Chetfalva (Berehove district). The smallest Gothic churches are preserved in Ivashkovytsia (Irshava district) and Novoselytsia (Vynohradiv district).

Many churches "traveled," with the Lemko churches being the most mobile. The Church of St. Michael was relocated in 1928 from Shelestovo to Mukachevo, and from there in 1974 to Uzhhorod. The Church of the Dormition was transported to Obava in 1788 and moved to the Czech Republic in 1931. From Velyki Luchky, the Church of St. Michael was moved at the end of the 18th century to Medvedivtsi, and in 1929 to Prague. Each wooden church is a genuine masterpiece of folk creativity, combining painting, woodcarving, embroidery, artistic craftsmanship, and unique monuments of writing and early printing.

The multi-tiered *Boiko* churches were preceded by archaic-type temples composed of three square log structures, with the central one slightly larger and topped with pyramidal roofs featuring one or two *zaloms* (stepped tiers).

The characteristic features of the Boiko school of traditional church architecture include:

– architectural and structural solutions based on subordination of all masses to the central composition, as well as symmetry, harmonization and geometrization of forms; the transformation of churches with one, two, or three domes into multi-tiered structures; and a complete correspondence between interior and exterior;

– a layout always formed by three rectangular log structures, close to square in plan: the central one (the nave) is slightly larger, while the two side ones (the narthex and the sanctuary) are smaller;

– the presence of an empora (gallery), an empora-belfry, and a peripheral gallery on the second level around the western log structure;

– structural techniques that are organically linked to the artistic expression of the building**:** the inward inclination of all wall planes toward the center of the structure (the walls of the nave leaning less than those of the narthex and sanctuary) was used to give the building greater static stability, to visually increase its height through optical illusion, and to lighten the perceived mass of the upper architectural forms;

– the log structures are covered with three tall stepped-pyramidal roofs, with the central roof higher than the side ones and dominating the entire structure. The two side roofs are not perfectly symmetrical, do not repeat each other precisely, yet are always harmonized to maintain the visual focus on the central roof. The number of *zaloms* (stepped tiers) on the roofs – even within the same church – may vary, appearing in different combinations of octagonal (*vosmerik*) and square (*chetverik*) tiers, sometimes consisting only of square or only of octagonal tiers;

– in Transcarpathia, the roofs of the narthex and the nave may be of equal height; the roof of the narthex is never higher than that of the nave and may function as a belfry;

– the roofs of Boiko churches are lower than those typical for Ukrainian churches in general, and they "grow" mostly from three rectangular log structures joined by an opasannia (encircling roof) supported on brackets or posts, and have a greater number of zaloms (stepped tiers);

– functional rooms built simultaneously with the church – such as the sacristy and the deacon's room – do not extend beyond the boundaries of the central log structure and terminate under the encircling roof (piddashshia). Square or polygonal choir stalls in the sanctuary, as well as stall-apses in the nave, remain within the limits of the piddashshia, and if they extend above it, they are covered with separate roofs or Baroque domes;

– the wooden walls are well protected from rain and moisture through the subdivision of the roofing into horizontal tiers with large overhangs, the use of an encircling piddashshia around the church, and a wide porch-like opasannia on the western façade supported on carved posts with braces shaped like arches;

– wall cladding up to the level of the encircling roof is executed with shingles of various patterns, enriching the surfaces of the building;

– a significant number of horizontal beams at different levels of the upper structure are typical (cross-beams, ties, ceiling beams).

The volumetric design of *Hutsul* churches depends on the proportions of the lateral arms, which – starting from the principles of composition based on the central square log – can follow five basic plan types: 1) a plan in the shape of a Greek cross with equal arms; 2) a plan close to a Greek cross with slightly shortened rectangular side arms; 3) a cruciform plan with short side arms; 4) a

cruciform plan with slightly shortened rectangular side arms and an elongated rectangular narthex; 5) a cruciform plan with short rectangular side arms and an elongated narthex or sanctuary. The characteristic features of the Hutsul school of church construction include:

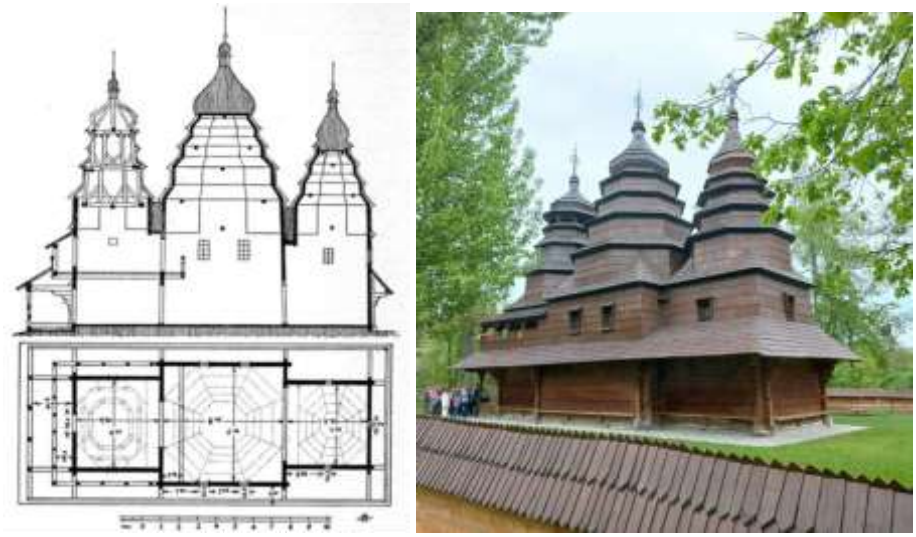


Fig. 14. The Church of St. Nicholas was built in 1763 (1761) as the parish church for the community of Kryvka village, Turka county

– the compositional diversity of Hutsul churches is achieved through rectangular or polygonal arms of varying proportions, oriented differently relative to the main axes, and through the use of one, three, or five domes atop the principal volumes;

– the dominant compositional axis is the east-west direction;

– in most single-domed churches, the rectangular base of the nave is visible from the outside, raised to the level of the roof ridge, forming the foundation for the octagonal drum (*shyia*), which is significantly narrower than the central log structure.

The transition between the square base and the octagonal drum is made through *pendentives* that are visible externally;

– in five-domed churches, the domes are always placed along the axes, with the central dome higher than the four surrounding ones, which are equal in height. In three-domed churches, the domes are located along the longitudinal (east-west) axis: the dome of the nave is higher than those of the sanctuary and narthex, while the latter two are equal in height;

– each arm of the cross-shaped plan is covered with a barrel vault, less often with a flat ceiling; the nave is crowned with a dome. Roofs of the rectangular arms are gabled with frontons, while those of polygonal arms are pentagonal;

– the octagonal drum is covered with a tented roof, or a tented roof with a slight narrowing near the base; it is topped with a *makivka* (finial) and a cross, set on a small lantern;

– each arm of the church has a small finial with a cross, or simply a cross mounted on a conical base above the fronton;

– architectural expressiveness is achieved through the interplay of masses of equal proportion, as well as through the intentional inward tilt of walls, which creates the optical illusion of increased interior height and contributes to a sense of monumentality on the exterior;

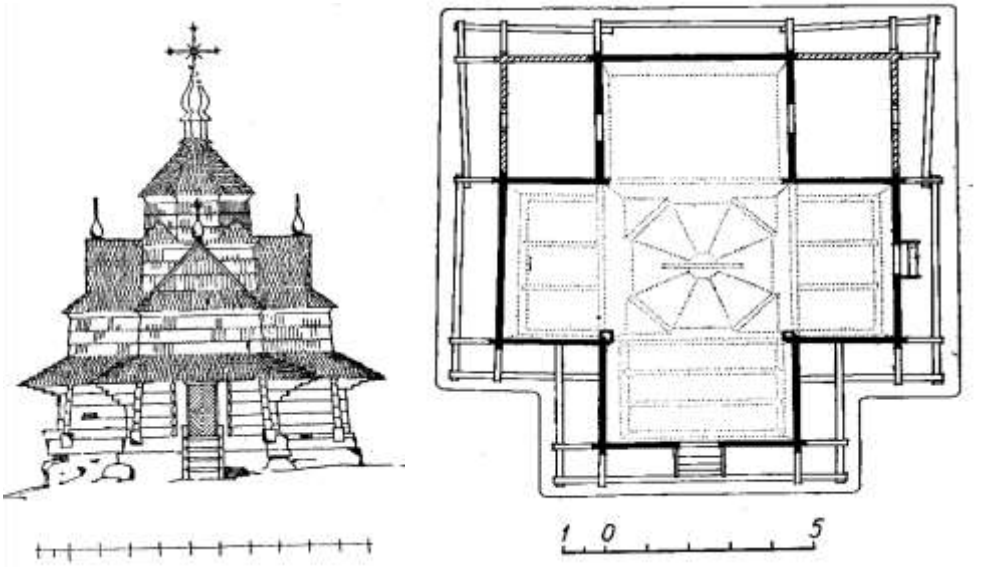


Fig. 15. The old church stands on a hill in the center of Vorokhta. According to one version, it was built in 1615 in the village of Yablunytsia. In 1780 it was moved to Vorokhta, to a site above the new cemetery. In 1860 the church was relocated again, to its current place, where it stands to this day

The wooden ecclesiastical architecture of *Transcarpathia* developed under complex geopolitical conditions: the region's territorial separation from Halychyna for many centuries, and the long-standing isolation of local Ukrainians from the main ethno-genetic and ethno-consolidation processes of the Ukrainian nation. All this led to the emergence of a great variety of spatial and volumetric solutions within a relatively small territory. Here one can clearly observe a kind of *multilayeredness* shaped by different historical influences. The plan of Transcarpathian churches generally remains traditional; what changes is the exterior treatment of the tower and roofs. It is important to note that, over time, architectural and structural solutions became simplified compared to the sophisticated forms of the 17th–18th centuries. During repairs, numerous cornices and tiered roof breaks caused significant difficulties for impoverished

communities. For this reason, the pyramidal vaults over the nave and the sanctuary were often replaced with simple gable roofs. Typical features of the Transcarpathian church-building school include:

– three-part plan (a square nave with a slightly narrower sanctuary and narthex) or two-part plan (narthex and nave of equal width, the sanctuary narrower, sometimes with cut corners);

– a frame-constructed tower-belfry with an overhanging projection (*pidsyabittia*) above the narthex, topped with a four- or octagonal tented roof, upon which rises a tall Gothic spire. Additionally, four small decorative turrets with tiny spires may be placed on the four sides of the roof. In Baroque versions, the tower receives a four-sided pear-shaped roof with a blind lantern, topped with a small roof, *makivka*, orb, and cross;

– a wrap-around gallery (obkhid) that embraces the western and central log structures. On the west side, a porch supports the overhang (*opasannia*) on carved posts with braces;

– stepped roofs: a higher roof above the central log and the tower over the narthex, a lower one over the sanctuary; the overhang encircles the whole structure or only its western part;

– vaulting: the main volumes (nave, sanctuary) have barrel vaults; the narthex is covered with a flat ceiling.

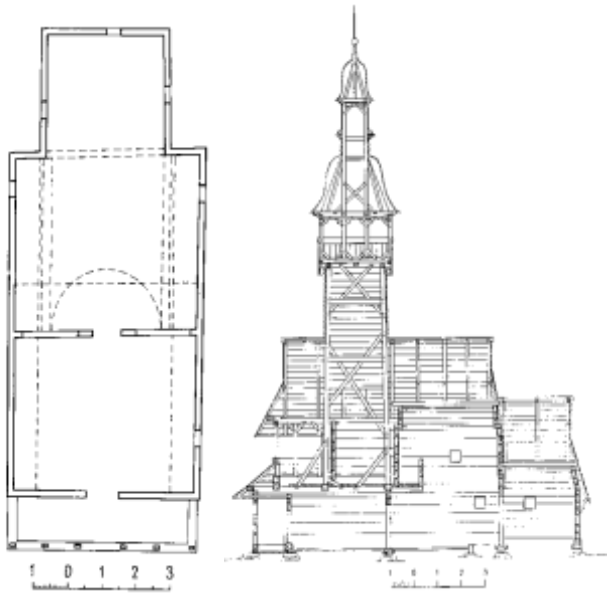


Fig. 16. The Transcarpathian school of church architecture

General characteristics of the *Lemko* school of folk church architecture.

It is distinguished by one-, two-, or three-log structures (*zrubs*) with a three-part (three-division) plan, featuring square, two- or three-tiered tented roofs, each

obligatorily crowned with prominent Baroque *makivkas* over the central and eastern log structures. Above the western log structure – the *babinets* – rises a tower-belfry, which is likewise topped with Baroque *makivkas*. A key local distinction of the Lemko type from the general Ukrainian tradition is its asymmetrical composition, with a pronounced descent in height from west to east**,** rather than the symmetrical balance of proportions between the domes of the *babinets* and the sanctuary typical of other regions. Lemko churches generally form through the addition of structural elements: *prysinky* (porches) attached to the nave and *babinets*, a sacristy added to the sanctuary, and, most notably, the construction of a frame-built tower, usually matching the width of the *babinets*. This tower is placed directly on the ground – either adjoining the nave or standing slightly apart from it. The emergence of the Lemko type is explained by the mass modification of two-part churches that took place in the 16th-17th centuries, followed in the 18th century by the widespread addition of frame-built tower-belfries.



Fig. 17. The Lemko school of church architecture

Let us briefly consider the characteristics of *Bukovinian* churches. They are distinguished by the following features:

– the overall silhouette of the church resembles a traditional rural house;

– the plan is three-part, consisting of two or three log structures (*zrubs*): three square zrubs; the *babinets* and sanctuary are polygonal, while the nave is square;

– each volume in the sub-roof space has its own upper structure or ceiling;
– the interior does not correspond to the exterior;
– all volumes are covered with a high, four-pitched shingle roof, which in older churches is nearly twice the height of the wall structures of the main volumes. The roof rests on massive stepped brackets – extensions of the upper log courses of the walls; more rarely, it rests on *sokhy* (forked wooden supports);
– the roof ridge is crowned with one cross (above the central zrub), two crosses (at the ridge ends), or three crosses (above each zrub). They may stand on cross-bearing apples (*yablukas*) or blind lanterns;
– the illusion of a tall church is achieved by increasing wall height and by placing upper structures with *zaloms* (setbacks) in the sub-roof space;
– the main interior volumes are unified by shaped arched cut-outs;
– the entrance is usually on the southern side;
– the upper structures within the sub-roof space are log-built and may have no *zaloms*, or have one, two, or (very rarely) three. The upper structures occur in three main types:
– *the babinets* ends with a four-sided log-built tented roof, *the nave* has an octagonal upper structure with one *zalom*, *the sanctuary* has an octagonal upper structure without *zaloms*.
– simpler church types have flat ceilings – higher above the central zrub and lower above the *babinets* and sanctuary.
– monumentality is achieved by enlarging the large square nave zrub**,** and by giving the *babinets* and sanctuary polygonal forms.

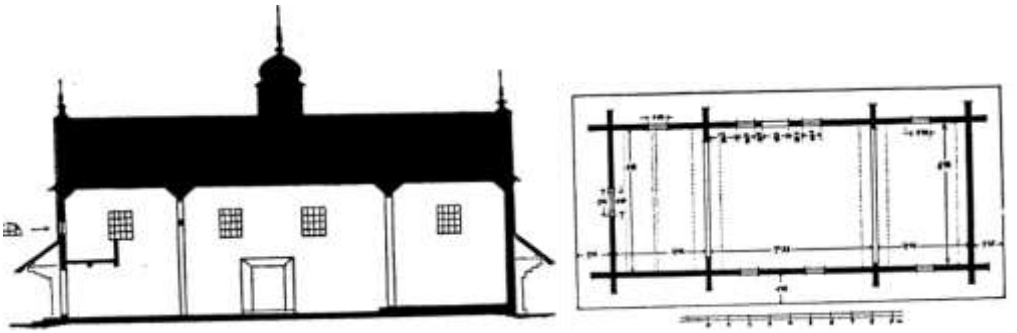


Fig. 18. Bukovinian church type

Maramureș is a legendary land located in the north of Romania, surrounded by hills and mountains. The hallmark of this beautiful region is the exceptional craftsmanship of its artisans and the rich cultural life of the local population. It is believed that among all Romanian provinces, Maramureș and Bukovina offer the best opportunity to experience deep spiritual life, as many ancient customs and traditions have been exceptionally well preserved here. Centuries-old traditions

remain an essential part of everyday life. Local residents still wear national clothing and distinctive traditional headpieces.

In Maramureș, there is an unbroken tradition of wooden architecture. The remarkable woodcarving craftsmanship of Maramureș has long gained well-deserved acclaim and continues to impress visitors to the region. Nearly every courtyard and every peasant house looks like part of a picturesque open-air village museum. Everything is adorned with ornamentation: gates, fences, homes, outbuildings, and wayside crosses (*troițe*) at road intersections.

In Maramureș County, there are nearly 90 wooden churches (88) recognized as historical monuments: 23 in the land of Chioar, 27 in the land of Lăpuș, 32 in the land of Maramureș, and 6 in the Codru region. In addition, there are two old wooden churches in the Maramureș area that do not hold monument status.

Between 2018 and 2021, CJCPCT Liviu Borlan, in partnership with various institutions and organizations, carried out a series of four projects dedicated to the monument churches in the county's four ethnographic regions. All these projects were co-financed by the National Cultural Fund Administration.

The wooden churches of Maramureș are renowned worldwide and are treasured by the local people. Eight wooden churches of Maramureș are included in the UNESCO World Heritage List: Bârsana, Budești, Desești, Ieud Deal, Plopiș, Poienile Izei, Rogoz, and Șurdești**.** These UNESCO-listed churches form a unique and highly significant architectural ensemble. These eight monuments stand alongside another 85 wooden churches in Maramureș County, most of which were built in the 17th-18th centuries. The distinctive architecture of the churches reflects a blend of Byzantine and Western European influences: a Byzantine ground plan paired with Gothic expression, where the construction material – wood – showcases the skill and artistry of local master craftsmen. The interior wall paintings are also of great value. Although open to visitors as museums, the wooden churches of Maramureș remain active places of worship, where services are still held.

The wooden church of the old Bârsana Monastery, dedicated to the Entry of the Most Holy Mother of God into the Temple, was built in 1711 in a place known as "the monk's hair" (*Părul Călugărului*) by the local priest together with his sons and villagers, as an act of thanksgiving to God for protection during the plague. Around 1739 the church was moved to the Iza Valley, to a cemetery established in 1717 after a battle with the Tatars. It was relocated again in 1795 to the center of the cemetery where victims of the 1742 plague were buried. Later, the church's interior was painted in Baroque and Rococo styles by the artist Hodor Toader. The walls depict scenes from the Bible, the Last Judgment, the Old Testament, and the Passion of Jesus Christ. Unfortunately, some of the paintings were severely damaged and have not survived.

Most experts date the wooden church of Saint Pious Paraskeva in Desești to 1770. It was inscribed on the UNESCO World Heritage List in 1999. Post-Byzantine

mural painting of the 18th century, characteristic of the Maramureș region, still covers the walls of its three rooms. These works are associated with two prominent local artists: Radu Munteanu and Alexandru Ponehălășa.

The wooden church of Desești underwent extensive restoration between 1996 and 1998, focusing on both its overall architecture and its interior murals. In 1999 it was added to the UNESCO World Heritage List. The church dates to the mid-18th century (1770 according to Tit Bud and Jobi Patterson; 1780 according to Alex Baboș). It originally belonged to the Greek-Catholic rite, but later became a place of worship for the Orthodox community. The UNESCO-listed church in Desești contains fourteen icons painted in tempera on wooden panels. The icon depicting Jesus Pantocrator was created in the 17th century, while the remaining icons date from the 18th century. The Mother of God with Child and the Deesis were painted in 1752, according to the inscription on the first icon, and most likely belonged to the iconostasis of an earlier church. The wooden church of Desești belongs to the category of large wooden churches, both in terms of its spatial layout and the system of vaults that structure its interior. The timber used for construction was felled in an area called Valea Caselor**,** not far from the church itself (Al. Baboș, *Tracing…*, p. 149). Some documents preserved in the DJC Maramureș archives state that the church was built of elm wood (Traian Ursu, *Short History*, 1970s-1980s), while others mention only "hardwood" (Monument Card, 1962, Al. Cumpănașu).

The wooden church of the Holy Archangels Michael and Gabriel in Rogoz**,** Maramureș County, is one of the most interesting and valuable churches in Transylvania. The village of Rogoz lies 6 km from Târgu Lăpuș. The church has been listed as a historical monument since 2004 (code MM-II-m-A-04618). It is also inscribed on the UNESCO World Heritage List under code 904. The church is built of massive elm beams, joined at right angles and reinforced in places with thick wooden pegs. It features a less common layout: a polygonal narthex with a southern entrance, a rectangular nave, and a polygonal recessed apse with seven sides instead of the usual five. The interior painting is what gives the monument its special cultural value. The murals date from 1785**;** the pulpit was added in the 19th century, and the current decorative program was completed in 1834**.** The original murals are well preserved in the altar and narthex, and partially preserved in the nave. The exterior decoration of the church adds to its distinctive beauty through its richness and complexity, while the interior decoration forms an equally intricate and expressive ensemble.

The wooden church "Holy Archangels Michael and Gabriel" in the village of Șurdești. Built in 1721 by the Greek-Catholic community of the village and constructed under the guidance of master Iona Macarie from mountain oak, the church is impressive by the standards of wooden buildings of that time, with a total height of 72 meters. The main tower is surrounded by four smaller towers, thanks to which this wooden church, with its 54 meters, was the tallest in the world during that period. Combining all elements of architecture, support, and

decoration in the most developed form of that era, this church is the principal reference point for wooden churches, achieving structural and aesthetic perfection in its execution. Since 1999, the church has been included both in the UNESCO World Heritage List and in the new register of historical monuments.

The wooden church dedicated to Saint Nicholas in Budești Josani, built in 1643, was included in the UNESCO World Heritage List in 1999. With a length of 18 meters, a width of 8 meters, and a height of 26 meters, the building is the largest wooden church in the historical region of Maramureș. Inside the church there are a number of paintings and icons attributed to Alexandru Ponehalschi, as well as some mentions of the outlaw Pintea the Brave.

The Church of the Nativity of the Mother of God was built in the village of Ieud by local craftsmen at the beginning of the 18th century. It is one of the most beautiful wooden churches in Romania. Despite its rather austere architectural style, the church is very refined. Frescoes by the artist Alexandru Ponehalschi from 1782 cover almost the entire interior surface of the church, including the doors. In 1925, an old manuscript dated 1391-1392 was discovered in the church attic; it is believed to be the oldest manuscript in the Romanian language written with Cyrillic letters. Today it is kept in the Library of the Romanian Academy in Bucharest.

The Church of Saint Nicholas in Budești was built by local residents in 1643. It has survived almost in its original form. This church is the most vivid example of a typical Maramureș church and impresses with its monumentality. It is the largest church in the history of Maramureș. Not only painters but also the finest local wood-carvers worked to create this beauty. And, of course, the wall and ceiling paintings. The interior of the church is striking. Here is a large collection of wooden icons from the 17th-18th centuries and even older, as well as the most valuable collection of icons on glass.

The oldest wooden church in Maramureș, the Church of St. Paraskeva in Poienile Izei, was built in 1604. The interior space of the church was expanded in the 18th century, and it was fully painted in 1794. On the western and northern walls, the theme of the end of the world dominates. The church has always been a place where people gathered for prayer, and also a place where village elders met to make decisions in difficult times. From the church tower one could observe enemies, and the church bell warned people about fires, floods, and other disasters looming over the village. The dead were buried around the church in accordance with their hierarchy.

4.2. Churches of the Carpathians under UNESCO protection

The United Nations Educational, Scientific and Cultural Organization (UNESCO) is an international organization and a specialized agency of the United Nations. Through cooperation among its member states in the fields of education, science,

and culture, it contributes to eliminating illiteracy, training national specialists, developing national cultures, and protecting cultural monuments.

Cultural criteria:

1 – the property represents a masterpiece of human creative genius;

2 – the property exhibits an important interchange of human values over a span of time or within a cultural area of the world, in architecture or technology, monumental arts, town planning, or landscape design;

3 – the property bears a unique or at least exceptional testimony to a cultural tradition or a civilization which is living or has disappeared;

4 – the property is an outstanding example of a type of building, architectural or technological ensemble, or landscape which illustrates a significant stage in human history;

5 – the property is an outstanding example of a traditional human settlement, land-use, or sea-use representative of a culture (or cultures), or of human interaction with the environment, especially when it has become vulnerable under the impact of irreversible change;

6 – the property is directly or tangibly associated with events or living traditions, with ideas, beliefs, artistic or literary works of outstanding universal significance.

Natural criteria:

7 – the property contains superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance;

8 – the property is an outstanding example representing major stages of Earth's history, including the record of life, significant ongoing geological processes, development of landforms, or significant geomorphic or physiographic features;

9 – the property is an outstanding example representing significant ongoing ecological and biological processes in the evolution and development of terrestrial, freshwater, coastal, and marine ecosystems and plant and animal communities;

10 – the property contains the most important and significant natural habitats for the in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation.

Eight wooden churches located in the Ukrainian Carpathians are inscribed on the UNESCO World Heritage List. They represent the major schools of sacred architecture in the Carpathian region. These churches vary in their condition and operational status – some remain active places of worship, while others have been converted into museums. Among them, three churches are part of the Carpathian Cultural Route.

It is worth noting that eight churches in the Romanian part of Maramureș are also protected by UNESCO (see Section 4.1).

The architecture of these wooden churches shows shared features with the Transcarpathian school of church building. All of them have been professionally restored using traditional and authentic building materials and techniques. In

general, they are characterized by a simpler rectangular floor plan divided into three parts: the narthex, the nave, and the altar. The altar sections are usually narrower than the nave and the narthex and often have a polygonal form. Their roofs are steep, with elements of Gothic style, which makes these churches strong spatial landmarks in the landscape.



Fig. 19. The Church of the Descent of the Holy Spirit in the town of Rohatyn



Fig. 20. The Church of the Nativity of the Blessed Virgin Mary in the village of Nyzhnii Verbizh, Kolomyia District



Fig. 21. The Church of the Ascension of Our Lord (Strupkivska) in the settlement of Yasynia



Fig. 22. Maramureș Churches under UNESCO Protection

CHAPTER 5. PRESERVATION AND PROMOTION OF SACRED HERITAGE

This chapter focuses on the problems and methods of restoring, conserving, and sustaining wooden sacred architecture.

5.1. Legislative framework

The regulatory document that establishes the rules for handling architectural monuments is the Law of Ukraine "On the Protection of Cultural Heritage." It states that a cultural heritage object is a landmark, structure (work), complex (ensemble), their parts, associated movable items, as well as territories or water objects (including underwater cultural and archaeological heritage objects), other natural, natural-anthropogenic, or human-made objects, regardless of their state of preservation, that have preserved their value from an archaeological, aesthetic, ethnological, historical, architectural, artistic, scientific, or cultural point of view and have retained their authenticity. The protection of these objects is defined as a system of legal, organizational, financial, material-technical, urban-planning, informational, and other measures aimed at: accounting (identification, scientific study, classification, and registration), preventing destruction or damage, ensuring protection, preservation, maintenance, adaptation, and museumification.

The executive body responsible for preserving cultural heritage in a village, settlement, or city that is included in the List of Historic Settlements of Ukraine is established by the local council in coordination with the central executive authority that implements state policy in the field of cultural heritage protection.

Authorities responsible for the protection of cultural heritage may, with their consent, involve experienced specialists in the field of cultural heritage preservation, as well as citizens acting as public inspectors, to monitor the condition, preservation, and use of monuments, their territories and protection zones, protected archaeological areas, and historical zones of settlements.

Heritage protection authorities shall ensure, whenever possible, free access to monuments for excursion visits, provided the monuments are deemed suitable for such access. The owner of a monument or an authorized body, as well as a person who has acquired the right of ownership, use, or management, is obliged, in coordination with the cultural heritage protection authorities, to organize such access. The procedure for access is established by protection agreements.

The owner or an authorized body, as well as the user, is obliged to maintain the monument in proper condition, carry out timely repairs, and protect it from damage, destruction, or loss in accordance with this Law and the protection agreement.

Conservation, restoration, rehabilitation, museumification, repair, and adaptation of monuments of national significance may be carried out only with a written permit issued by the central executive authority responsible for

implementing state policy in the field of cultural heritage protection, based on scientific and design documentation approved by this authority.

The next document regulating how a monument must be treated is DBN A.2.2-14:2016 “Composition and Content of Scientific and Design Documentation for the Restoration of Architectural and Urban-Planning Monuments.” This document defines the procedure for researching a monument, preparing scientific and design documentation, and performing the actual restoration work. Scientific research is the first stage of working with a monument. It includes compiling a historical reference report, locating and analyzing archival materials, photographs, drawings, and written descriptions. The next stage involves on-site investigations of the building itself: architectural measurements, architectural and archaeological surveys, photogrammetry, engineering research, and structural inspections. Additional methods may include exploratory probes and trial pits. All these materials are compiled in the form of reports and drawings. Subsequently, based on this collected material, a restoration or adaptation project is developed.

5.2. Problems of preserving wooden churches

The main challenges in preserving wooden churches in Ukraine include their natural fragility and vulnerability to moisture, fungi, and fire, as well as unprofessional and destructive “renovations” and repairs that destroy the authenticity of the structures. Insufficient funding, management shortcomings, and the lack of proper restoration knowledge are also key issues that lead to emergency conditions and the loss of unique architectural heritage.

Natural factors and pests:

- Moisture and fungi:

Wood is highly vulnerable to moisture, which leads to decay, cracking, and the spread of harmful fungi.

- Fires**:**

Irreparable damage is caused by fires that destroy entire churches, often as the result of arson.

Unprofessional restoration and “updating”:

- Unqualified repairs**:**

Local residents or unskilled craftsmen often attempt to “restore” churches by replacing authentic wooden elements with modern materials, which destroys the integrity of the monument.

- Lack of proper knowledge:

Insufficient understanding of restoration principles leads to misguided actions that further damage these historic buildings.

Lack of resources and insufficient oversight:

- Funding:

Inadequate state funding and the absence of clear coordination mechanisms complicate the work of restorers.

- Lack of a comprehensive approach:

A systematic scientific approach to preservation, documentation, and restoration is often missing, which makes each case unique but also difficult to address.

Social aspect:

- Good intentions but chaotic action: Despite the active involvement of local communities in efforts to preserve churches, these efforts are often spontaneous and lack professional guidance.

Wooden churches deteriorate faster due to the specific nature of the material. They were built mainly in villages, where the majority of the population does not perceive centuries-old churches as important cultural monuments that require protection. Instead, attempts are often made to "restore" exterior walls or interior paintings "by their own means," that is, without the involvement of professional artists and restorers.

Researchers have published figures indicating that there are 2,550 wooden churches on the territory of our country dating from the 16th-19th centuries. Most of them are located in the Ivano-Frankivsk, Lviv, Rivne, Chernivtsi, Zakarpattia, Volyn, and Vinnytsia regions, and there are also hundreds of monuments of Ukrainian wooden sacred architecture in ethnic Ukrainian territories of neighboring countries.

Increased humidity, large gaps under windows and doors, severe roof damage – this traditional list of problems is painfully familiar to every restorer or simply to any concerned craftsman involved in the revival of an old church. The modern approach to the restoration of wooden architecture takes into account the impact of natural factors: specialists treat the wood with special antiseptics designed to reliably protect the church from the harmful effects of moisture and fungi. However, while snow, rain, or high humidity are destructive factors that initially act almost imperceptibly, fire becomes a truly catastrophic force that is difficult to stop.

A paradoxical fact is striking: due to a careless attitude toward the protection of architectural monuments and the unwillingness of responsible persons to make their own efforts to safeguard churches, more churches have burned down during the years of Ukraine's independence than were destroyed during the years of the atheistic Soviet regime. And when an old church disappears, church authorities build a new one for the faithful; however, such a structure cannot compensate for the loss of a cultural monument, because the age of some old churches reaches 300-500 years.

Restorers who specialize in old wooden churches often travel through Ukrainian villages and study the critical condition of churches, documenting their emergency state in order to restore them using public funds and their scientific

expertise. While all approvals are being coordinated, local residents try to “restore” the church on their own.

They are guided by good intentions: to prevent the holy church from collapsing. As a result, it may stand a little longer, but its artistic value is already lost. An old church that has lost its original form and has become significantly deformed due to weather conditions and age is usually covered with sheet metal on the outside. After that, the church begins to resemble a tin can. Very little remains to remind one of a cultural monument, except perhaps the memories of elderly villagers.

Despite these sad facts, the problem should also be viewed from another perspective. In villages there are craftsmen who consider the restoration of an old church building a matter of personal dignity. In cases where a centuries-old church has already been lost, but scholars possess accurate information about its appearance (both exterior and interior), talented craftsmen can revive the church again using traditional ancestral methods.

Researchers have long proposed that the state take concrete steps to preserve sacred architectural masterpieces, namely: to study each monument individually, create a specific protection passport for each site, and strictly prohibit unqualified individuals from interfering in the restoration process.

It is also necessary to carry out a full inventory of churches and to establish an independent interdepartmental commission that would effectively process the collected information and unite specialists for the comprehensive restoration of the building itself, as well as its interior murals and iconostases. Only after this can all complex works aimed at restoring our national cultural heritage truly begin.

However, all these plans are moving forward only thanks to the personal enthusiasm of committed scholars and craftsmen. This progress is not happening as quickly as would be necessary for the effective protection of wooden churches. Moreover, the overall condition of the country, which has been experiencing war in the east, significantly reduces the real chances for productive work aimed at preserving any cultural values.

5.3. Restoration of memory. Lost churches

The application of modern digital technologies makes it possible to preserve knowledge about local schools of church construction, to create a solid research base, and to promote Ukrainian sacred architecture. The objects of this study are lost churches of the Carpathian region, documented in the works of Z. Tsaryk and M. Tsaryk, M. Drahan, V. Shcherbakivskyi and D. Shcherbakivskyi, and V. Slobodian.

The selection criteria include:

- affiliation with different architectural and ethnographic regions, which makes it possible to demonstrate the diversity of church construction in the Carpathians;

- the presence of characteristic features inherent to specific schools of church construction – Hutsul, Boyko, and Bukovyna;
- the availability of a sufficient amount of textual and graphic materials, which enables accurate reconstruction.



Fig. 23. A 3D model of the church hosted on the online platform Sketchfab

The use of specialized 3D modeling and visualization software ensures the reconstruction of textures, landscapes, and natural lighting, and contributes to perceiving the church as a realistic object. The resulting models can be used not only for educational, academic, or promotional purposes, but can also be integrated into a shared digital database of three-dimensional reconstructions. Such a database would contain not only textual and graphic data, but also full-fledged 3D models that users could view, scale, rotate, and explore in detail, including individual elements and structural components.

Access to the models can be provided via QR codes placed in academic publications, on websites, or in museum spaces, allowing both researchers and the general public to become familiar with the reconstructed objects. This approach will contribute to the dissemination of knowledge about Ukrainian sacred architecture, the promotion of regional heritage, and the preservation of historical memory of the lost churches of the Carpathian region.

CONCLUSIONS AND GENERALIZATIONS

The wooden churches of the Carpathian region constitute a unique and coherent architectural heritage of global significance, the genesis of which is closely connected with local natural, social, and religious preconditions.

The principles of architectural and ethnographic zoning of the Carpathians are presented. Local schools of church construction (Boyko, Hutsul, Lemko, and others) are clearly identified and analyzed, making it possible to distinguish their common and distinctive features in planning, spatial, and structural solutions.

The structural, technological, and material foundations of wooden church construction have been examined. A conclusion is drawn regarding the high level of craftsmanship of Carpathian builders, who used traditional, environmentally friendly materials (wood) to create durable and refined structures.

Church architecture is an integral part of the surrounding environment. The importance of the location of churches, the configuration of sites, and the role of auxiliary elements (bell towers, fences, small architectural forms) in shaping a cohesive church ensemble has been analyzed.

The wooden sacred structures of the Carpathian region represent a unique phenomenon of the spiritual and artistic heritage of Ukraine and neighboring lands. They were formed within an environment of deep folk traditions, specific natural conditions, and centuries-long influences of various confessions and cultures. The architectural schools of Ivano-Frankivsk region, Zakarpattia, and Romanian Maramureș demonstrate different approaches to composition, construction, and decoration of churches, yet are united by common features: the use of wood as a living material, the predominance of tripartite composition, an organic connection with the landscape, and the symbolic meaning of every architectural element.

The study of this module made it possible to:

- to recognize the cultural and historical value of wooden churches as carriers of Christian traditions, local identity, and collective community memory;
- to distinguish regional architectural types – Boyko, Hutsul, Lemko, and Maramureș – and identify them by their structural and stylistic features;
- to understand the influence of the natural environment and the craftsmanship of local carpenters, which shaped systems of proportions, joining techniques, and decorative motifs;
- to assess the importance of icon painting, sculpture, and ornament as integral elements of the sacred space;
- to realize the necessity of protecting and restoring these monuments in the face of modern threats (climate change, deterioration, and loss of authenticity due to inappropriate repairs).

Thus, the wooden churches of the Carpathians are not merely architecture but a holistic code of regional culture. They unite folk craftsmanship, Christian spirituality, and the aesthetics of the natural landscape. Preserving these sanctuaries is an important mission of contemporary society, as they are a key to understanding our history, identity, and cultural continuity.

The study of this module confirms the critical importance of protecting, preserving, and promoting wooden churches as an integral part of the shared

cultural heritage of the countries of the Carpathian region, especially in the context of modern international projects aimed at the visualization and accessibility of the Carpathian Cultural Route.

QUESTIONS FOR SELF-CHECK

1. What key factors influenced the formation of the traditions of Carpathian wooden sacred architecture?
2. What types of churches are typical of Carpathian wooden architecture (composition, number of log frames, plans)?
3. Name the characteristic structural features of wooden churches (material, log construction, roofs, towers).
4. What makes Carpathian churches unique in the context of European wooden architecture?
5. How does the landscape influence the composition and location of churches?
6. Which are the best-known wooden churches of Ivano-Frankivsk and Zakarpattia regions, and Maramureș County in Romania, and what are their protection/status categories?
7. Which decorative traditions (wall painting, iconostases, wood carving) are typical of local churches?
8. What historical conditions shaped local wooden sacred architecture?
9. What is characteristic about the composition of "Maramureș towers with a tall spire"?
10. What are the similarities and differences between Ukrainian and Romanian churches of the Maramureș region?
11. Which elements are common across the entire Carpathian region?
12. How does the tradition of community construction ("toloka") affect the architectural appearance and symbolism of churches?
13. Why were some wooden churches included in UNESCO heritage, and which criteria contributed to this?
14. Give examples of churches in Maramureș and Ukraine included in the UNESCO World Heritage List.

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TRAINING MODULE
"MUSEUM TECHNIQUES FOR EXSPOSING"

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CHAPTER 1. MUSEUMS AS A SOCIOCULTURAL INSTITUTION

This chapter reveals the essence of museums as a sociocultural phenomenon, their role in shaping collective memory, as well as the stages of development of museum practice in Ukraine and worldwide.

1.1. Definition of museums. Historical and contemporary experience of museum practice

A museum is not merely a repository of cultural values; first and foremost, it is an institution of social memory, a space for interpreting the past, the present, and the future.

According to the definition of the International Council of Museums (ICOM, 2022), a museum is a permanent, non-profit institution open to the public that serves society by researching, collecting, preserving, interpreting, and exhibiting tangible and intangible heritage. Museums are inclusive and accessible, promote diversity and sustainable development, and operate ethically and professionally with community participation.

However, their significance goes far beyond this formal definition.

First and foremost, museums perform the function of preserving historical memory. They accumulate objects, documents, works of art, archaeological finds, and monuments of science and technology, ensuring their scientific documentation, restoration, and proper storage conditions. In this way, society maintains a connection with the past, and cultural heritage is passed on to future generations.

Museums also play an important scientific role. Their collections serve as a foundation for research in fields such as history, art studies, ethnology, and natural sciences. Museum professionals conduct scientific expeditions, prepare publications and catalogs, and participate in international projects. Thus, a museum is not only a place for storing artifacts but also a center of scientific knowledge.

The educational function is equally significant. Museums shape historical awareness, develop aesthetic taste, and foster respect for cultural heritage. Modern exhibitions increasingly incorporate interactivity and multimedia technologies, creating conditions for dialogue with visitors. The museum becomes an open space for lifelong learning.

The social role of museums is also growing. They serve as platforms for public dialogue, reflection on complex historical issues, and the formation of national and regional identity. In many countries, museums actively engage with communities, support inclusive practices, and promote cultural integration among different social groups.

In addition to their cultural and educational importance, museums also have an economic dimension. They contribute to the development of cultural tourism, shape the image of cities and regions, and stimulate creative industries. Renowned institutions such as the Louvre Museum and the British Museum are not only cultural symbols but also powerful tourist attractions.

In the modern world, especially in the context of social transformations and wartime challenges, museums play an extremely important role as institutions of memory and guardians of cultural heritage. They help society reflect on the past, understand the present, and responsibly shape the future. That is why the significance of museums extends far beyond their exhibition halls – they are fundamental components of cultural development and the spiritual life of society.

The historical origins of museums date back to antiquity. As early as the 3rd century BCE, the famous Mouseion existed in Alexandria – a Temple of the Muses that combined a library, a research center, and a repository of artifacts.

In the Middle Ages, the role of museum collections was performed by treasuries attached to monasteries and cathedrals, where relics, manuscripts, and objects of worship were preserved. During the Renaissance, private collections emerged – cabinets of curiosities (Wunderkammern) in Italy, Germany, and Flanders – which laid the foundations of modern museum practice.

The eighteenth century became the era of the institutionalization of museums. The opening of the British Museum (1753) and the Louvre (1793) marked a new stage – the transition from private ownership to a public cultural space. In the nineteenth and twentieth centuries, museum practice became an important component of national identity: national, ethnographic, archaeological, and art museums were established throughout Europe and the Americas.

In Ukraine, the development of museum practice has deep historical traditions. The first museum collections were formed in Kyiv, Lviv, and Kharkiv as early as the nineteenth century. A particularly important role was played by the Shevchenko Scientific Society (Lviv), Saint Volodymyr University of Kyiv, and the Odesa Society of History and Antiquities, which initiated systematic collecting and cataloguing of cultural heritage objects. In the twentieth century, Ukrainian museums underwent political transformations – from Soviet ideological control to a contemporary rethinking of the museum space as a platform for dialogue and national memory.

At the beginning of the twenty-first century, museums have been reoriented toward a communicative function. The modern museum is not only a repository but also an interactive space that employs new technologies (VR/AR, multimedia, virtual tours), shaping a *"new museum audience"* (Ambrose & Paine, 2018).

1.2. Characteristics of museums as sociocultural institutions

A museum is an integral part of the cultural infrastructure of society. Its specificity lies in the combination of scientific, educational, and communicative functions. As noted by B. Savchuk (2021), a museum is *"a system of interaction between cultural heritage, scientific knowledge, and public memory."*

The main functions of museums include:

1. Preservation (conservation) – ensuring the physical and scholarly preservation of museum objects.
2. Research – study, classification, and attribution of items.
3. Educational – dissemination of knowledge through guided tours, lectures, and interactive programs.
4. Formative (educational in values) – shaping value orientations and national consciousness.
5. Cultural and communicative – creating dialogue between the past and the present.
6. Touristic – integrating the museum into the cultural and economic space of the region.

Modern museums are increasingly viewed as *cultural hubs*, open to public initiatives, young people, and artists. The concept of the "new museum" (New Museology, Desvallées & Mairesse, 2010) emphasizes community participation, inclusivity, and social responsibility.

A museum is a place where memory meets innovation, where history becomes an experience of the present.

1.3. Museology as a scholarly discipline and its specifics

Museology is a comprehensive academic discipline that studies the history, theory, methodology, and organization of museum activity. Its subject matter includes the patterns of development of museum practice, the structure of museum communication, and the principles of exhibition and preservation of cultural heritage.

The main branches of museology include:

- Historical museology – the study of the evolution of museum practice.
- Theoretical museology – the development of concepts, terminology, and principles.
- Applied museology – methods of collection building, exhibition design, and conservation.
- Social museology – analysis of the role of museums in society.
- Information museology – digitization and the creation of virtual databases.

The Ukrainian school of museology was formed at the intersection of historical, art historical, and cultural studies disciplines. Among the leading researchers are L. Kasian, O. Tymoshchuk, I. Starovoit, and Yu. Ivashko. Their works reveal the

interconnection between museum activity and issues of preserving national cultural heritage, museum education, and tourism practices.

International Standards and Ethics of Museum Practice

An important role is played by the ICOM Code of Professional Ethics (2022), which defines the fundamental principles of museum activity:

- legality of the origin of collections;
- respect for the cultural context of objects;
- accessibility and transparency;
- scholarly integrity of exhibitions;
- the inadmissibility of commercialization of cultural values.

The American Alliance of Museums (AAM), in the document *Excellence and Equity* (1998), emphasizes that a museum should be "an educational institution open to all." European museums promote the concept of *the inclusive museum* – a museum for all groups of society, including people with disabilities, children, and migrants.

1.4. The museum in the digital age

In the 21st century, museums are becoming not only physical but also digital spaces. Virtual museums are being created (such as Europeana, Google Arts & Culture, Smithsonian Open Access), providing open access to collections and expanding opportunities for researchers and visitors alike.

This transformation contributes to the implementation of the e-museum concept, in which the museum acts as a communicator between cultural heritage and digital media:

- The e-museum concept transforms the traditional museum into a hybrid platform for preservation, education, and communication.
- Digital technologies expand the audience, making the museum accessible on a global scale.
- The use of VR, AR, 3D, and interactive platforms opens new horizons for education, research, and the popularization of culture.
- A successful e-museum combines a traditional physical exhibition with digital accessibility, creating synergy between the material and the virtual.

Modern museums operate at the intersection of traditional exhibition methods and digital technologies, which open new possibilities for communication, education, and the preservation of cultural heritage. The digitalization of museums is not merely an additional tool, but a new model format for the existence of the institution.

Foundations of the e-museum concept

An e-museum is an integrated digital space that brings together:

- digital collections (3D models, video, audio, high-resolution photographs);
- virtual exhibitions (VR, AR, interactive platforms);

- online educational and research services (lectures, webinars, courses, research databases);
- online communication with visitors (chatbots, forums, social media).

The e-museum concept implies expanding the boundaries of the museum's physical space, allowing users to explore exhibitions regardless of their geographic location.

Core functions of a digital museum

1. Preservation and accessibility

- Digital copies ensure long-term preservation of objects without risking damage to the originals.
- Collections become accessible online to scholars and the general public, including users from different countries.

2. Educational and cultural mission

- Virtual exhibitions support distance learning and public education.
- Interactive elements allow users to "immerse" themselves in the context of the exhibits.

3. Interactivity and personalization

- Visitors can independently design their own routes through online exhibitions.
- Recommendation systems suggest thematic sections based on user interests.

4. Communication function

- The museum becomes a platform for knowledge exchange, discussion, and collaboration with other institutions.
- Social media and online forums help create interest-based communities.

Technologies and tools of the e-museum

- VR (Virtual Reality) – full immersion in virtual environments; reconstruction of historical objects and buildings.
- AR (Augmented Reality) – overlaying digital content onto real exhibits (mobile applications, interactive screens).
- 3D scanning and modeling – creation of accurate digital replicas of sculptures, artifacts, and architectural objects.
- Interactive multimedia displays – used for education, games, and visualization of historical context.
- Online platforms and portals – such as Europeana and Google Arts & Culture, which enable the integration of collections from multiple museums.

Advantages and challenges of digital museums

Advantages:

- global accessibility and expansion of audiences;
- preservation of unique exhibits in digital form;
- integration of multimedia resources into research and educational programs;

- increased interest in culture among younger and technologically active users.

Challenges:

- high costs of technologies and their continuous updating;
- the need for qualified personnel (digital curators, programmers, 3D designers);
- risks related to digital piracy and copyright protection;
- maintaining a balance between the physical and virtual presence of museums, so that digital experiences do not replace direct, live engagement with culture.

A museum is a living institution that constantly evolves together with society. Its mission lies not only in preserving the past, but also in shaping contemporary cultural identity. Museum activity combines scholarly analysis, pedagogy, design, and communication, while simultaneously bearing a profound responsibility for the cultural heritage of humanity. Thus, museums function as sociocultural laboratories where new meanings are formed, and exhibition methodologies serve as the main tools for their realization in space and time.

CHAPTER 2. CLASSIFICATION OF MUSEUMS

This chapter is devoted to the typology of museums according to their profile, the content of their collections, and their functions, with examples of leading Ukrainian and international institutions.

2.1. Types and profiles of museums

The classification of museums is an important part of museum studies, as it makes it possible to understand the structural diversity of the museum world, the specificity of museums' objectives, exhibition formats, and modes of interaction with audiences.

The identification of museum types is based on the subject of collecting, the nature of collections, intended purpose, territorial scale, form of ownership, and organizational and legal status.

Criteria for the classification of museums:

1. By the content and profile of collections: historical, art, natural history, technical, ethnographic, literary, etc.;
2. By form of ownership: state, municipal, private, corporate, community-based;
3. By territorial scope: national, regional (oblast-level), local, regional, museum branches;
4. By type of activity: classical (collection-based), virtual, interactive, museum-reserves;

5. By form of exhibition presentation: permanent, traveling, open-air museums.

Thus, the International Council of Museums (ICOM) classifies museums according to their professional profile, emphasizing that each museum has its own scholarly and cultural mission, while all of them are united by a common task – to serve society and the cultural heritage of humanity.

State and community museums.

State museums are funded from the national or local budget and have the status of official scholarly and cultural institutions (for example, t*he National Art Museum of Ukraine, the National Museum of the History of Ukraine*). Community (public) museums are established by initiative groups, foundations, or civic organizations (for example, *the Holodomor Museum, the "Territory of Terror" Museum in Lviv*).

Private museums are financed by their founders and represent an important direction of the contemporary museum industry. They often have flexible management structures and modern approaches to exhibition design (for example, the *PinchukArtCentre* in Kyiv, *the Museum Barberini* in Potsdam, and the *Fondation Louis Vuitton* in Paris).



Fig. 1. National Reserve "Ancient Halych". Shevchenkove, Krylos, Halych, Ukraine

Open-air museums.

A special type of museum is the ethnographic *open-air museum*. These institutions present entire architectural and everyday-life complexes. The first such museum in the world is considered to be Skansen (Stockholm, 1891, founded by Artur Hazelius). In Ukraine, notable examples include *the Museum of Folk Architecture and Rural Life in Lviv* (1971), *the National Museum of Folk Architecture and Rural Life of Ukraine in Pyrohiv, and the Transcarpathian Museum of Folk Architecture and Life in Uzhhorod*. These museums combine exhibition, research, and educational functions and contribute to the preservation of intangible cultural heritage.



Fig. 2. Ensemble of rural culture and architecture of Breb. Romania

Virtual and digital museums.



Fig. 3. Interactive digital museum "City and Weapons". Potocki Palace, "Space of Innovative Creations 'Palace'". Ivano-Frankivsk, Ukraine

In the 21st century, with the development of information technologies, a distinct type has emerged – the virtual museum. These museums exist in digital form, often without a physical building. Examples include *Google Arts & Culture, Europeana Collections, the Smithsonian Virtual Museum, and the British Museum Online*. In Ukraine, the *"Virtual Museum of the Occupation of Crimea"*, created in cooperation between the Ukrainian Institute of National Memory and IT specialists, is actively developing. Digital museums offer advantages in accessibility and multimedia presentation; however, they also raise questions about the

authenticity of the museum experience – specifically, the lack of direct personal contact with original objects.

2.2. Main museum profiles

Each museum has its own profile – a scholarly specialization that determines the nature of its collections, research directions, and exhibition methods.

Historical museums.

This is the most widespread type of museum, dedicated to the preservation and interpretation of historical memory. Historical museums focus on the study, safeguarding, and representation of the historical development of human society. Their collections are formed from tangible and intangible heritage that reflects political, social, economic, and cultural processes.



Fig. 4. Maramureș County Museum of History and Archaeology. Romania

Their main functions include documenting historical events and processes, preserving material and written sources, shaping the historical memory of society, as well as educational and formative activities.

Examples include:

- *National Museum of the History of Ukraine* (Kyiv),
- *Lviv Historical Museum,*
- *British Museum* (London),
- *Deutsches Historisches Museum* (Berlin).

In general, historical museums can be divided into the following sub-profiles:

- archaeological museums – present the material culture of ancient civilizations;
- military-historical museums – highlight wars, armies, and military technology;

- social-historical museums – focus on everyday life and social change;
- museums of the history of cities and institutions.

Historical museums use chronological or thematic principles of exhibition and often employ models, reconstructions, and multimedia tools. They also fulfill an educational mission by contributing to the formation of historical consciousness in society.

Local history museums.

Local history museums have a comprehensive character and represent the history, nature, ethnography, and culture of a specific region. They shape local identity, preserve unique regional traditions, and serve as centers of local cultural memory. The structure of their collections includes regional archaeology, ethnography and folk art, historical documents, and natural history specimens. Local history museums are also referred to as comprehensive museums, as they combine several profiles: historical, natural history, and ethnographic. They are characteristic of regional and local museums in Ukraine, for example *the Ivano-Frankivsk Regional Museum of Local Lore*. A comprehensive museum creates a holistic picture of regional life by integrating various aspects – nature, culture, everyday life, and history.



Fig. 5. Ivano-Frankivsk Regional Museum. Ukraine

Art museums.

Art museums preserve works of painting, graphics, sculpture, and decorative arts. They are divided into museums of fine arts, galleries, and museums of folk and sacred art. The main tasks of an art museum are the preservation of artistic heritage, the study of artistic styles and movements, and the formation of aesthetic taste. Well-known examples include *the Louvre (Paris), the Prado (Madrid), the National Gallery of Art (Washington, D.C.), and the National Art Museum of Ukraine*.

In exhibition methodologies of art museums, visual rhythm, lighting, and the compositional logic of the display are of particular importance, as they emphasize the stylistic unity of the artworks.



Fig. 6. County Art Museum "Baia Mare Art Center". Romania

Natural history museums.

These museums are dedicated to the biological, geological, and paleontological diversity of the Earth. Classic examples include *the Natural History Museum* in London *and the Smithsonian National Museum of Natural History* in the United States. In Ukraine, this role is fulfilled by *the National Museum of Natural History of the National Academy of Sciences of Ukraine* (Kyiv). Flora and fauna, minerals, rocks, and fossil remains are presented through dioramas, taxidermy objects, and interactive models. In such museums, the combination of scientific accuracy and visual clarity is essential – exhibitions are organized according to evolutionary or thematic principles.

Ethnographic museums.

Ethnographic museums reflect the material and spiritual culture of peoples. Examples include the *Ivan Honchar Museum (Kyiv), the National Museum of Folk Architecture and Life of Ukraine (Pyrohiv), and the Etnografiska Museet (Stockholm).* Exhibition methods are based on creating a holistic cultural environment: dwellings, crafts, clothing, and rituals. Sound effects, reconstructions of folk celebrations, and workshops are often used to enhance immersion and understanding.



Fig. 7. Geological Museum of the Ivano-Frankivsk National Technical University of Oil and Gas. Ivano-Frankivsk, Ukraine



Fig. 8. Museum of Ethnography and Folk Art of Baia Mare County. Romania

Literary and memorial museums.

These museums are created on the basis of the life and creative work of prominent figures in literature, science, and the arts. In Ukraine, examples include *the Taras Shevchenko Museum, the Ivan Franko Memorial Museum in Lviv, and the Lesia Ukrainka Museum*. Internationally known examples *are Shakespeare's Birthplace Museum* (Stratford-upon-Avon) and *the Goethe House* (Frankfurt).

House-museums, estate-museums, and memorial complexes have a strong emotional impact on visitors due to the authenticity of the space and the symbolic

value of the exhibited objects. The main feature of these museums is their emotional and narrative-based exhibition, which conveys the atmosphere of the era and the personal world of the artist or thinker.



Fig. 9. Elie Wiesel Memorial House. Sighetu Marmației, Romania

Technical and industrial museums.

These museums present the history of technology, engineering, and industry. Among the most well-known are *the Deutsches Museum* (Munich), *the Science Museum* (London), and *the Museum of the History of Technology of Ukraine* (Kyiv). Interactivity dominates in such museums: models, simulators, and experimental halls actively engage visitors in the learning process.

2.3. Contemporary innovative types of museums

At the beginning of the 21st century, the museum ceased to be merely a place for storing artifacts and became a platform for communication, research, and interactive engagement with visitors. Museum activity is developing in the direction of humanization, digitalization, and democratization of access to cultural

heritage. Contemporary museums are oriented not only toward objects, but toward people – their experiences, emotions, education, and participation in the cultural process. In this context, new innovative types of museums are emerging, combining science, technology, art, social interaction, and environmental awareness.

Contemporary innovative museum types are the result of profound sociocultural transformations, the development of digital technologies, and changes in the role of culture in society. They are formed in response to new audience expectations, as visitors seek not only the contemplation of exhibits, but active participation, emotional engagement, and personal experience. In this context, the museum is gradually transforming from an institution of preservation into a space of interaction, dialogue, and co-creation.

Interactive museums are oriented toward the active involvement of visitors through experimentation, play, and tactile and multimodal experience. In such museums, an exhibit often ceases to be an untouchable object and instead becomes a tool of knowledge. Interactivity is particularly effective in science and technology museums, children's museums, educational institutions, and natural history museums, where it promotes a deeper understanding of complex phenomena and processes.

Digital and virtual museums represent a new form of existence of the museum institution within the digital environment. They may function as a supplement to a physical museum or as independent platforms without a permanent material space. Thanks to digitized collections, 3D models, virtual tours, and online exhibitions, digital museums ensure global access to cultural heritage, removing spatial, temporal, and physical limitations. Virtual museums (or e-museums) are online platforms where exhibitions are presented in digital form: 3D models of objects, panoramic tours, audio and video materials. Their goal is to provide global access to collections and to create a new format for the perception of cultural heritage.

Main features:

- use of VR (virtual reality) and AR (augmented reality) technologies to immerse visitors in the exhibition space;
- interactive elements such as animations, gamification, and multimedia explanations;
- opportunities for distance education and the organization of virtual exhibitions;
- creation of electronic catalogs and open archives.

Corporate museums are established within enterprises, companies, or organizations and serve to preserve brand history, production culture, and corporate identity. They combine elements of a museum, an archive, and a communication center, functioning as tools of internal corporate culture and

external image-building. Such museums активно use contemporary design and multimedia solutions to create an engaging and coherent narrative.

Community museums focus on local histories, memory, and the lived experiences of specific social groups or territorial communities. Their defining feature is a participatory approach: members of the community are directly involved in shaping collections, exhibitions, and programs. This type of museum promotes social integration, preserves intangible cultural heritage, and strengthens local identity.

Pop-up museums are temporary, mobile museum projects that appear in unconventional spaces – shopping centers, public squares, abandoned buildings, or online environments. They respond quickly to current issues and events, experiment with formats, and actively engage contemporary audiences. Pop-up museums demonstrate the flexibility of the museum form and its ability to move beyond the boundaries of traditional institutional frameworks.

Next-generation science and technology museums (such as the Exploratorium in San Francisco) function as open laboratories and experimental spaces for both children and adults.

These museums demonstrate a paradigm shift – from the passive "contemplation of an exhibit" to an "experience of participation," which requires new exhibition methodologies, multimedia design, and scenario-based approaches.

The latest museum paradigm takes into account *the principles of inclusivity, equality, and cultural diversity*. Such museums create conditions for the participation of people with disabilities, representatives of different cultures, age groups, and linguistic communities.

An inclusive museum provides:

- an adapted environment (tactile exhibits, Braille signage, audio guides);
- multilingual navigation;
- programs tailored to different social groups.

Overall, contemporary innovative types of museums reflect a fundamental change in the museum paradigm – from an exclusive focus on preservation and display of objects to an emphasis on visitor experience, communication, and social interaction. They expand the boundaries of museum practice, increase its relevance, and open new possibilities for interpreting cultural heritage in a rapidly changing world. The modern museum increasingly becomes a partner of education and science. Research laboratories, experimental platforms, and creative studios are being established, integrating academic scholarship, art, and public history.

2.4. Classification of museums in Ukraine

Museums and museum activities in Ukraine are regulated by a number of legal acts. The basic normative framework is the Law of Ukraine "On Museums and Museum Activities," which defines key terms, the legal status of museums, and the requirements for the registration, preservation, and use of museum collections. This legislative framework establishes the basis for classifying museums by status, subordination, and functions.

According to the *Law of Ukraine "On Museums and Museum Activities" (2000, with amendments in 2021),* museums are classified by:

- profile (historical, art, natural history, etc.);
- territory of activity (national, state, municipal, public/community, private);
- form of ownership and sources of funding.

As of 2025, Ukraine has more than 5,000 museum institutions of various forms of ownership. Among them are 57 national museums, over 400 local history museums, around 250 art museums, as well as new local community museums established within the framework of decentralization (according to data from the Ministry of Culture and Information Policy of Ukraine).

The museum system of the world is extremely diverse. It reflects not only scientific classification but also the cultural values of society. Understanding the types and profiles of museums allows museum professionals to more effectively define their goals, exhibition methods, and development strategies.

In summary, the classification of museums makes it possible to gain a deeper understanding of the richness and dynamism of the museum landscape, to trace the evolution of museum forms, and to identify prospects for their development. It constitutes a necessary foundation for the professional activity of museum specialists, strategic planning, and the adaptation of museums to contemporary sociocultural challenges.

CHAPTER 3. ACQUISITION, INVENTORY, AND STORAGE OF MUSEUM COLLECTIONS

This chapter examines the principles of scientific acquisition of museum collections, inventory control, and the organization of storage facilities, as well as the stages of accepting objects into the collection and documentation requirements.

3.1. Scientific acquisition of museums

The storage of museum objects is a set of scientifically grounded and technologically regulated measures aimed at ensuring the physical, chemical, and informational integrity of heritage objects that constitute the museum collection.

Storage is a fundamental function of a museum, without which exhibition, research, and educational activities are impossible. The effectiveness of the

storage system determines both the longevity of objects and the reliability of historical memory.

Acquisition is a systematic process of enriching the museum collection with objects that possess historical, artistic, scientific, or cultural value. The main goal of acquisition is to ensure the scientifically justified formation of collections that reflect the profile and conceptual framework of the museum.

Principles of acquisition.

According to Fundamentals of Museum Practice (ICOM, 2017) and the Ukrainian Law On Museums and Museum Affairs, acquisition is carried out based on the following principles:

- scientific validity – selection of objects in accordance with the research goals and thematic focus of the museum;
- representativeness – ensuring comprehensive representation of a particular phenomenon or historical period;
- provenance authenticity – verification of the authenticity of objects and the legality of their origin;
- ethical standards – respect for the rights of owners and prohibition of illicit trafficking in cultural property.

Sources of acquisition.

1. Archaeological excavations (e.g., finds transferred to museums of the National Academy of Sciences of Ukraine).
2. Ethnographic expeditions (collection of household items and folk art).
3. Donations and gifts from private individuals or organizations.
4. Purchases through official channels (antique dealers, auctions).
5. Exchange and cooperation between museums.
6. Transfers from state institutions (e.g., archives, libraries, educational institutions).

In contemporary practice, digital acquisition is gaining increasing importance – the inclusion of digital objects such as 3D models, video archives, and digital copies of artifacts. This broadens the concept of the museum object and allows museums to adapt to the challenges of the digital age.

Ethical aspects.

ICOM (2022) emphasizes that museums must avoid acquiring objects of dubious provenance, particularly those that may have been illicitly removed during wars or colonial processes. In Ukraine, these principles are reflected in Order of the Ministry of Culture and Information Policy No. 319/2019, which regulates the procedure for acquiring museum collections.

3.2. Registration of museum collections.

Registration is a scholarly and documentary activity aimed at recording museum objects, ensuring their preservation, scholarly study, and identification.

Collection management has a hierarchical structure:

- Chief Curator – overall management and supervision of storage conditions;
- Heads of departments/sections – registration, inventory, and documentation management;
- Technical staff – maintenance of premises and security systems.

Museums maintain records of object movement, electronic catalogs, and digital image archives, which ensure transparency and long-term preservation of information.

Museum collections consist of two main groups:

1. *Main collection* – objects of scientific, historical-cultural, or artistic value that form part of the State Museum Fund (original archaeological finds, works of art, archival documents).
2. *Scientific and auxiliary aollection* – materials used for research, exhibition design, and educational purposes (copies, casts, models, reproductions, photographic collections).

Each museum object is assigned an inventory number**,** passport**,** label**,** descriptive record**,** and photograph.

Stages of registration:

1. Preliminary registration: entering information about the object into the Temporary Accessions Book.
2. Inventorying**:** assigning the object an inventory number and including it in the Main Collection.
3. Scholarly description: documenting the object's characteristics, material, technique, state of preservation, author, and provenance.
4. Photography or 3D scanning**.**
5. Cataloging: inclusion in an electronic catalog or database.

Documentation Systems

In Ukraine, the following forms are commonly used:

- Inventory Book of the Main Collection;
- Registration Book of the Scientific and Auxiliary Collection;
- Passports of museum objects;
- Transfer and acceptance acts.

In international practice, collection management software such as MuseumPlus**,** TMS (The Museum System)**,** CollectiveAccess, and Omeka is widely used. These systems support international standards, including CIDOC CRM and Dublin Core**.**

Digitization of collection management.

Modern museums are implementing electronic registers, which make it possible to:

- create online collection catalogs;
- track the movement of objects between collections;
- integrate data with security and climate-control systems.

Example: the National Art Museum of Ukraine has implemented the *NAMU Digital* project, while the British Museum has created an open database with more than 4 million digital records.

3.3. Storage of museum objects

A modern storage facility is an engineering-equipped space with climate-control systems, security alarms, and fire-safety installations. Museum collections must be equipped with: specialized storage rooms with controlled microclimate, metal cabinets or shelving with anti-corrosion coating, security and fire-extinguishing systems, a quarantine room for newly acquired exhibits.

Main equipment elements of a storage facility (collection storage):

- *Shelving units and cabinets* – designed for storing items according to typology and size. They are typically made of powder-coated metal and have adjustable shelves.
- *Card files and safes* – used for storing documents, small objects, and valuables. They must provide humidity control.
- *Containers, boxes, and cases* – used for individual packaging of items. Packaging materials must be acid-free and free of plasticizers.
- *Open-type display cases* – combine display and storage functions. They are made of tempered glass and have a sealed structure.
- *Control systems* – include sensors for temperature, humidity, motion, and smoke, with automatic staff notification.

Conditions for the storage of museum objects.

According to *DSTU 4402:2005 "Museums. General requirements for storage"*, proper care of museum objects requires compliance with the following parameters:

- temperature: +18...+22°C;
- relative humidity: 45-60%;
- no direct sunlight;
- minimization of dust, harmful gases, and vibrations.

The cycle of measures for storing museum objects includes:

- Ensuring a stable microclimate – maintaining optimal temperature and humidity conditions;
- Preventing damage – protection against mechanical, biological, chemical, and light-related factors;
- Organizing scientific documentation – recording the condition of objects, their provenance, and movements;
- Monitoring the state of preservation – scheduled inspections, photographic documentation, and technical condition reports;
- Ensuring access – rational arrangement of collections and the possibility of scholarly work with objects;

- Creating conditions for restoration – cooperation with specialists and preparation for conservation work.

Microclimate.

Temperature and humidity parameters depend on the material of museum objects. Paper, books, and graphics are stored at 18-22°C and 45-55% humidity, without sharp fluctuations, in acid-free boxes. Textiles and costumes require 18-20°C and 50-60% humidity, preferably stored horizontally without pressure. Wooden objects are kept at 18-22°C and 45-55% humidity, avoiding drying out and proximity to heat sources. Metals require lower humidity – 35-45% at 16-20°C, with condensation control and no contact with wood. Canvas paintings are stored vertically at 18-22°C and 45-55% humidity, under stable lighting conditions. Archaeological objects are kept at 14-18°C and 40-50% humidity in special safes or sealed boxes. Photographic films and negatives require 14-16°C and 30-40% humidity, stored in darkness with minimal light exposure.

Lighting Regime.

Light is one of the most aggressive factors in the deterioration of museum objects. Permissible illumination levels:

Permissible Lighting Levels

Light is one of the most aggressive factors in the deterioration of museum objects. For light-sensitive materials (paper, textiles, watercolor), the permissible illuminance is up to 50 lux (lx). For oil paintings and wood, it is up to 150 lux (lx). For less sensitive materials, such as metal, ceramics, and stone, it is up to 300 lux (lx).

To reduce damage, museums use light filters, ultraviolet-protective films, window shading, and LED lighting without UV radiation.

Protection from pests and biological factors.

Constant monitoring of cleanliness and the absence of dust, mold, insects, and rodents is essential. Museums apply an *Integrated Pest Management* (IPM) system, which includes:

- monthly inspections of storage areas;
- insect traps;
- isolation of infested objects;
- use of safe biocides;
- maintenance of monitoring and observation logs.

Control of preservation condition

Scheduled control – carried out 1-2 times a year and aimed at a general inspection of collections.

Targeted control – checks changes in condition after exhibitions or restoration.

Operational control – assesses damage in emergency situations (leaks, fire).

Monitoring control – conducted continuously using sensors, cameras, and logs to detect deviations in storage or exhibition conditions.

Documentation:

- Object passports – description, photographs, technical parameters, condition diagnostics.
- Condition logs – records of inspections and preventive measures.
- Restoration reports – with specified methods and materials used.

Packaging, transportation, and temporary storage.

During the movement of museum objects, the main priorities are shock absorption, stable temperature and humidity, and minimization of vibrations.

- Soft polyurethane foam padding, acid-free paper, and cardboard are used.
- For sensitive objects – individual cases with climate control.
- During transportation – monitoring of container temperature and smooth handling.

Each movement of an object is accompanied by issue/return acts and photographic documentation of its condition.

Conservation and restoration.

Conservation is the process of stopping or slowing down deterioration; restoration is the recovery of an object's external appearance while preserving its authenticity.

Basic principles:

- minimal intervention;
- reversibility of materials;
- scientific justification;
- documentation of every stage.

Restoration work is carried out by professional conservator-restorers in laboratories equipped with filtration systems, microscopes, UV lamps, and other specialized equipment. Ukraine has a number of restoration centers, including the National Scientific Research Restoration Center of Ukraine (Kyiv), the Lviv National Art Gallery, and the Odesa Art Museum.

Security of museum collections:

- physical security, video surveillance, RFID tags;
- insurance of collections (especially for traveling exhibitions);
- evacuation plans and "backup collections" for the digital preservation of data.

3.4. Problems and prospects of collection (storage) management

Collection management has a hierarchical structure:

- Chief curator (head keeper) – overall management and control of storage conditions;
- Heads of departments/sectors – registration, inventory, and documentation;
- Technical staff – maintenance of premises and security systems.

Museums maintain records of object movements, electronic catalogs, and digital image archives, which ensure transparency and long-term preservation of information.

Modern museums face a number of challenges:

- limited storage space;
- aging material and technical infrastructure;
- shortage of qualified collection keepers;
- insufficient funding for conservation and restoration work.

Current trends in the field of storage and collection management:

- Digitization of collections: 3D scanning, electronic databases, virtual copies;
- Integrated microclimate monitoring systems with remote control;
- Use of "smart" packaging materials (with humidity indicators);
- Eco-oriented approaches: energy efficiency and minimization of chemical agents;
- Open-storage repositories – combining storage and exhibition functions.

At the same time, the role of international programs such as UNESCO Memory of the World and Europeana is increasing, as they promote digital accessibility of cultural heritage.

An innovative direction is the virtual collection repository – the creation of 3D copies of exhibits that are accessible to researchers and the public without risking damage to the originals.

CHAPTER 4. EXHIBITION ACTIVITY

This chapter presents the theoretical foundations and contemporary methods of exhibiting museum objects, including the use of multimedia technologies, interactive forms, and design principles.

4.1. The Concept of a museum exhibition and principles of its design

A *museum exhibition* is the primary form of communication between the museum and the visitor, through which the institution's educational, scholarly, and cultural mission is realized. It combines material objects, informational context, and emotional experience.

The modern definition of an exhibition is based on the ICOM approach:

An exhibition is the systematic arrangement of museum objects in space with the aim of creating a coherent semantic, aesthetic, and communicative image that reveals a specific theme or idea.

Basic principles of exhibition design:

1. Scientific validity – correspondence of the exhibition content to the current level of scholarly knowledge.
2. Authenticity – priority of genuine, original objects over copies.

3. Systematic structure and logic – construction of the exhibition as a coherent structure with an introduction, development, and conclusion.

4. Visual expressiveness – aesthetic organization of space and compositional integrity.

5. Accessibility – ensuring clarity and ease of perception for different visitor groups, including inclusive audiences.

6. Interactivity and communicativeness – a shift from passive viewing to active dialogue with the visitor.



Fig. 10. National Museum of Hutsul and Pokuttia Folk Art named after Y. Kobrynsky. Kolomyia. Ukraine

In Ukrainian museum practice, the concept of the exhibition developed in connection with the activities of historical museums in Kyiv, Lviv, and Kharkiv, as well as memorial museums dedicated to Ivan Franko, Taras Shevchenko, and Lesia Ukrainka. International examples include exhibition solutions at the Louvre (France), the British Museum, the Guggenheim Museum (USA), and Scandinavian-type museums, where space is transformed into an interactive platform.

4.2. Types of exhibitions and technologies of their creation

Exhibition activity is a purposeful process of selecting, grouping, designing, and interpreting museum objects in space in order to reveal a specific theme, idea, or concept. It is one of the main ways a museum fulfills its mission – facilitating communication between heritage and society.

A museum exhibition serves as the primary means of scholarly, artistic, and emotional interpretation of the past, combining scientific accuracy with artistic expressiveness.

An effective exhibition is created with consideration of the needs of real and potential visitors, including:

- school groups**,** who require interactive and age-appropriate educational materials;
- students and researchers, who are oriented toward in-depth content and access to original sources;
- families**,** who expect a safe, engaging, and accessible leisure format;
- tourists, who are open to concise, visually rich, and multimedia-based information;
- local communities, for whom the museum functions as a platform of cultural identity.

Understanding audience structure makes it possible to optimize exhibition methodologies: to determine the appropriate level of textual complexity, select types of explanatory materials (media guides, interactive elements, sensory points), define the temporal structure of the exhibition, and design effective navigation systems.

Main stages of exhibition activity.

Exhibition activity follows several sequential stages:

1. Conceptual design involves defining the theme, goals, and hypothesis of the exhibition, as well as developing the scientific concept and scenario plan. Researchers, a curator, a designer, and a methodologist are involved.
2. Selection of exhibits includes the scholarly selection of items from collections, their classification by themes, typology, and condition. Collection managers and restorers are involved.
3. Design and artistic solution consists of developing spatial composition, lighting, color, and graphic design. Designers, architects, and artists take part.
4. Installation and technical implementation includes the setup of display cases, installation of exhibits and multimedia equipment, and technical safety checks. Installation teams and technical specialists are responsible.
5. Educational and interpretive support includes preparing texts, audio guides, visual explanations, and interactive materials. Curators, educators, and marketers participate.
6. Evaluation of effectiveness involves collecting feedback, conducting visitor surveys, and analyzing communication effectiveness with the involvement of sociologists and museum analysts.

Principles of museum exhibition design:

1. Scientific validity – every exhibit must have verified provenance, a reliable description, and documented sources.
2. Artistic integrity – harmony of color, lighting, composition, scale, and spatial organization.
3. Communicativeness – the ability of the exhibition to convey meaning in an accessible form to diverse audiences.

4. Authenticity – priority of original artifacts over copies or reconstructions.

5. Interactivity and multimedia – use of modern technologies to enable active visitor engagement with the content.

6. Ethics and inclusivity – respect for historical contexts and cultural differences; accessibility for all visitor groups.

Typology of exhibitions.

Exhibitions are divided into several types:

- Permanent exhibition – presents the museum's main theme over a long period (e.g., a historical exhibition in a local history museum).
- Temporary exhibition – dedicated to a specific theme, event, or person and has a limited duration (e.g., an anniversary exhibition of an artist).
- Traveling exhibition – designed for mobility and displayed in different locations.
- Open-air (outdoor) exhibition – located outside museum buildings (e.g., a museum park or sculpture garden).
- Virtual exhibition – implemented in a digital space using interactive tools (e.g., an online tour).

Artistic design of the exhibition.

Artistic design defines the visual image of an exhibition. It is based on:

- architectural composition (the layout of halls, circulation routes, and focal points);
- lighting scenario (direction, intensity, and color of light);
- graphic and color design (signage, texts, fonts, color palette);
- emotional and dramaturgical structure (the development of the narrative from one exhibit to another).

Illustrative examples:

- a diagram of lighting accents within a display case;
- a comparative table of compositional principles (symmetry, rhythm, contrast).

4.3. The exhibition as the central museum product

A museum's product policy is a strategic system for managing museum products. It includes the planning, development, renewal, and positioning of those elements of museum activity that create cultural value for audiences. At the core of this policy lies the understanding of the museum as an institution that creates and offers society a complex set of material, informational, and emotional – cultural products. The central one among them is the exhibition, which fulfills the mission of representing cultural heritage, knowledge, and meanings, and sets the framework for all other museum products.

An exhibition is not merely a collection of displayed objects. It is an integrated system of communication that:

- shapes the unique image of the museum;
- defines its thematic specialization and social mission;
- generates the primary interest of audiences;
- serves as the core from which educational, informational, digital, and communicative products branch out.

Within the museum's product policy, the exhibition is the central product because it:

1. determines the motivation for visiting the museum;
2. acts as the main carrier of cultural value and intellectual content;
3. generates demand for additional museum services–guided tours, lectures, souvenirs, VR modules;
4. structures the interaction between the museum and its various audiences;
5. defines the brand and individuality of the institution.

Thus, the exhibition is a strategic product through which a museum realizes its goals, reproduces cultural memory, and builds recognizability within the cultural space.

From the perspective of product policy, *a museum product has a multilevel structure:*

Core product

This is the cultural identification of the exhibits – their historical, artistic, scientific, or symbolic value. In this sense, *the product is not the object itself*, but the knowledge, ideas, meanings, and narratives it represents.

Actual product

This is the *exhibition* itself: the objects on display, their spatial arrangement, exhibition design, lighting, textual panels, multimedia elements, and the logic of the visitor route.

Augmented product

This includes additional elements that accompany the exhibition: audio guides, catalogues, educational programs, workshops, souvenir products, web-based exhibitions, VR/AR content, consultations, and guided tour services.

A successful product policy presupposes balanced management of all three levels, enabling the creation of a comprehensive and meaningful museum experience.

The following *principles of a museum's product policy* should be highlighted:

- *Scientific validity.* The formation of museum products must be based on verified scientific data, methods of attribution, and archival and field research. A solid scientific foundation guarantees the authenticity of the exhibition and the legitimacy of the products that accompany it.
- *Mission alignment.* The exhibition and its derivative products should correspond to the museum's mission, strategic objectives, institutional values, and its role within the cultural environment.

- *Audience orientation.* Product policy takes into account the needs of different audience segments and ensures accessibility and diversity of presentation formats.
- *Innovativeness.* Exhibition products should be updated in accordance with contemporary technological possibilities and current trends in the interpretation of cultural heritage.
- *Sustainability.* The development of the exhibition must be aligned with the museum's capacities, collection resources, budget, and long-term strategy.

Like any product, *an exhibition* goes through certain stages – so to speak, its *"life cycle":*

1. *Concept development:* shaping the theme, visual and narrative structure, and key ideas.
2. *Design:* creating the scenario, spatial mapping, and preparing interpretive materials.
3. *Implementation:* installation of the exhibition, spatial design, and integration of multimedia and navigation elements.
4. *Operation and maintenance:* monitoring the condition of exhibits, updating texts, adjusting visitor routes, and providing technical maintenance.
5. *Evaluation of effectiveness:* analyzing visitor numbers, feedback, and behavioral data.
6. *Modernization or rotation:* partial or complete renewal of the exhibition, replacement of objects, integration of new technologies.
7. *De-installation:* ending the exhibition's existence and transitioning to a new concept.

Managing the life cycle makes it possible to maintain the exhibition as a relevant, dynamic, and "living" product.

Product policy determines how a museum positions its exhibition in the public space. As a result, *the exhibition becomes*:

- *an element of the brand:* shaping recognition, character, and uniqueness;
- *a value proposition:* answering the audience's question, "Why should I visit this particular museum?";
- *a tool of cultural communication:* transmitting the identity of a region, community, or historical environment;
- *a platform for dialogue:* stimulating public discussion of cultural, scientific, and social issues.

An effective product policy turns the exhibition into an element of cultural image-making and a factor of social influence.

As the central product, the exhibition forms the foundation for other museum products: guided tour programs, educational courses, popular science publications, digital platforms, souvenir lines, exhibition projects beyond the museum walls, and partnership initiatives with communities, universities, and cultural institutions.

Thus, each accompanying product does not exist independently but functions as an *"extension"* of the exhibition and a means of deepening its impact.

Although museums are not commercial organizations, their product policy must take the economic dimension into account:

- profitability of ancillary products (audio guides, catalogs, souvenirs);
- resource intensity of exhibition solutions;
- potential for attracting grants;
- the product's ability to stimulate repeat visits;
- investment attractiveness of new exhibition initiatives.

The financial sustainability of a museum is often directly linked to the quality of its exhibition product.

Current trends in exhibition practice.

- Use of augmented reality (AR) to bring artifacts to life.
- Thematic zoning instead of a strictly chronological principle.
- Ecological approaches in design (material efficiency, reuse and recycling).
- Co-creative exhibitions developed in collaboration with local communities.
- Inclusive solutions (tactile replicas, audio descriptions, adapted visitor routes).

4.4. Multimedia technologies in exhibitions

In the 21st century, the museum has transformed into a communicative space that combines the material, the digital, and the virtual. Contemporary exhibition methodologies are based on the principle of "edutainment" (education + entertainment), meaning learning through engagement.

Examples of multimedia solutions:

- AR/VR technologies – virtual reconstructions of objects (Science Museum in London, *Lascaux IV* in France).
- Digital screens and projections – dynamic presentation of content without damaging original artifacts.
- Holographic exhibitions – visualization of lost or destroyed heritage sites.
- Interactive tables – digital exploration of maps, archives, and documents.
- Sensory play zones – adaptations for children and visitors with special needs.

In Ukraine, such approaches are applied by the Holodomor Museum, the Museum of Science of the Junior Academy of Sciences of Ukraine, the Lviv Historical Museum, and the Dnipro Museum Hub.

Modern museums also активно use digital tools, including:

- analytics of websites and mobile applications;
- monitoring interaction with multimedia exhibits;
- social media analysis;
- online feedback collection tools;
- electronic systems for booking and visitor management.

Digital analytics makes it possible to promptly track interest in exhibitions, compare the effectiveness of different communication channels, analyze audience behavior in the online environment, and integrate these data into exhibition planning and development.



Fig. 11. Digital tourist information panel at a site of the Carpathian Cultural Route

4.5. Design, lighting, and museum text

Exhibition design is a comprehensive system of artistic and constructive solutions that ensures the logic of perception of the exhibition space, the convenience of visitor movement, and emotional and aesthetic impact. It combines architectural and spatial composition, graphic design, color schemes, lighting, sound environment, and multimedia elements.

The visual culture of an exhibition is determined by the harmonious interaction of the object, space, and light. Light in a museum is not only a technical means but also a narrative tool that emphasizes the emotional dramaturgy of the exhibition.

The main task of museum design is to transform information about exhibits into a visual and sensory experience, making the exhibition clear, engaging, and persuasive.

Museum design includes:

- compositional integrity and logical visitor routing;

- contrast of colors and textures;
- consideration of perception psychology;
- safety for exhibits (control of UV lighting, humidity, and temperature).

Principles of museum design.

The main principles of museum design are integrity, hierarchy, functionality, authenticity, and dynamism. Let's look at their essence and examples of application:

- Integrity – the consistency of all exhibition elements (architecture, graphics, lighting, texts), for example, a unified color scheme across the halls.
- Hierarchy – a clear distribution of space according to levels of attention: primary, secondary, and background (e.g., highlighting a central exhibit with lighting).
- Functionality – convenience and safety for visitors, with clear routes and signage.
- Authenticity – respect for the originality of objects and their context, including the use of natural materials.
- Dynamism – the ability to adapt and change, incorporating interactivity, modular structures, and digital technologies.

Spatial and compositional solutions.

The architectural organization of space determines how an exhibition is perceived. The main types of composition include:

- Linear composition implies a sequential progression from one theme to another and is typical of historical exhibitions
- Centric composition is organized around a main object or symbolic core and is often used in art exhibitions.
- Pavilion composition divides the space into autonomous zones (typical for ethnographic exhibitions).
- Combined composition integrates different principles to create a spatial narrative (dramaturgy), which is characteristic of modern interactive museums.

Lighting in the exhibition.

Light is one of the most powerful tools influencing the perception of museum space. It determines not only visibility, but also the emotional atmosphere of the exhibition.

Basic requirements.

- Preservation of exhibits: control of illumination levels (for paper – up to 50 lx, textiles – up to 150 lx, metal – up to 300 lx).
- Color temperature of light: neutral white (4000–4500 K) or warm (2700–3200 K) for historical exhibition halls.
- Light distribution: no glare, an even contrast between the exhibit and the background.

Illustrative example: a diagram of lighting zones in a display case.

- *Museum text as a means of communication.*

- Museum text is a verbal interface between the exhibit and the visitor. It should simultaneously inform (provide basic information), interpret (create atmosphere), and communicate (establish dialogue), while remaining understandable for different audiences.

Type of Lighting	Purpose	Light Sources
General lighting	Creates uniform illumination of the exhibition hall	Ceiling systems, track lighting fixtures
Accent lighting	Highlights key exhibits or zones	Spotlights, projectors with adjustable beam angles
Decorative lighting	Creates atmosphere and emotional effects	Display case lighting, LED strips
Background / backlighting	Separates exhibits from the background, adds depth	Backlights, contour lighting sources
Natural lighting	Use of daylight (with limitations)	Windows with UV filters, light shafts

Levels of museum text.

The basic (reference) level includes the label beneath an exhibit, which identifies the object by indicating its name, date, author, and origin.

An explanatory card provides context, significance, and the history of the object.

A text block at the entrance represents the conceptual (thematic) level, shaping the idea of a section or hall.

The narrative (artistic) level evokes an emotional response or introduces a storyline through quotations, historical notes, etc.

Questions, QR codes, and multimedia descriptions that stimulate visitor engagement belong to the interactive level.

Requirements for museum text:

1. Conciseness – up to 60-80 words for an object label.
2. Clarity – no overload with terminology; a clear and well-structured presentation.
3. Stylistic consistency – alignment with the graphic design of the exhibition.
4. Multilingualism – at least two languages (the state language and English).
5. Visual comfort – optimal font size (14–18 pt), sufficient contrast between text and background, and an accessible placement height.

It is recommended to use short texts placed at a comfortable viewing height, with duplication in English and/or in Braille.

4.6. Communication and promotion of exhibitions

Communication and promotion of exhibitions are aimed at generating audience interest, ensuring the recognizability of the museum, revealing its mission, and conveying the core meanings of the exhibition narrative. In contemporary conditions, the museum has ceased to be a closed space with fixed functions and has become an active communicator operating in a multi-channel environment, competing for the viewer's attention and striving to build long-term relationships with diverse communities. Effective communication not only provides information about the exhibition but also shapes *expectations, emotional tone, motivation to visit, and the post-visit experience,* which influences visitor loyalty and repeat visits.

Communication performs strategic functions:

- *informational* – conveying the essence of the exhibition, its theme, content, and scholarly value;
- *educational* – popularizing cultural heritage and explaining contexts and historical processes;
- *culture-forming* – influencing the shaping of identity, memory, and value orientations;
- *emotional* – creating prerequisites for engagement, interest, and empathy;
- *branding* – supporting the museum's image as a modern, open, and innovative institution.

Communication must be holistic and aligned with the exhibition concept and the overall marketing strategy.

Effective promotion begins with an analysis of target groups. Museum audiences differ by age, level of education, cultural experience, motivation, information habits, social roles, and degree of familiarity with the exhibition topic.

Segmentation makes it possible to develop *differentiated communication approaches*, adapt language, presentation style, visual solutions, the volume and depth of information, and distribution channels. This helps to avoid universal but ineffective messages.

The main communication channels for exhibitions are:

Traditional media

Press, radio, and television remain important for reaching a broad audience and strengthening the institution's legitimacy. They provide:

- public announcements about the opening of an exhibition,
- support for newsworthy occasions,
- interviews and expert commentary.

Digital communications

Digital channels are the primary promotion tool for modern museums, as they allow rapid dissemination of information, engagement of younger and new audiences, creation of visually rich formats, organization of interactive activities, and collection of analytics.

Digital channels include the museum's official website, social media, blogs and thematic platforms, email newsletters, podcasts, video content, and virtual tours.

Internal communication within the exhibition space.

Communication continues inside the museum through information panels, navigation solutions, corporate identity elements, printed materials, and interactive points.

It is important that internal and external communications are stylistically and conceptually aligned.

Cooperation with educational institutions, cultural centers, tourism organizations, communities, and businesses expands the audience and strengthens the museum's authority.

Promotional tools to support exhibitions:

Exhibition identity and visual style.

Each exhibition requires its own visual identity, including:

- a logo or stylized symbol,
- a color palette,
- typography,
- a key visual image,
- a consistent communication style and tone of voice.

Identity builds recognizability and creates an emotional atmosphere long before the visit.

PR campaigns.

Effective tools include press releases, media announcements, special events for journalists, participation of the exhibition in professional events, and the creation of newsworthy occasions.

Educational and cultural events.

Promotion is supported by curator-led tours, public lectures, thematic workshops, meetings with researchers, theatrical events, and discussion clubs.

These activities stimulate interaction and deepen interest.

Social media as a space for dialogue.

Social media make it possible not only to inform but also to engage in dialogue with visitors, involve them in content creation, foster a sense of community, and maintain an emotional connection after the visit.

Promotion can be built around the creation of valuable content: stories about objects, popular science texts, interviews with curators, short videos about the work on the exhibition, visual series, and thematic columns.

Building a communication strategy for an exhibition includes *several stages*:

1. *Analytics* – studying audiences, defining key messages, positioning the exhibition.
2. *Planning* – selecting channels, schedules, responsible persons, and resources.
3. *Content development* – creating textual, visual, and multimedia materials.

4. *Implementation* – using all communication channels in a coordinated manner.

5. *Monitoring and adjustment* – measuring effectiveness and adapting to new conditions or audience feedback.

The strategy should be flexible and sensitive to changes in the social environment.

Exhibition communication should have:

- *clarity* – accessibility and comprehensibility;
- *narrativity* – the ability to tell a story;
- *scientific rigor* – accuracy and responsibility;
- *emotional engagement* – involvement and empathy;
- *visual expressiveness* – alignment with the exhibition theme;
- *consistency* – unity across all communication channels.

The language of promotion is an important carrier of meaning and strongly influences first impressions.

Communication and the exhibition must form a unified environment in which the expectations created by promotion correspond to the actual visitor experience. A mismatch between promotion and the exhibition leads to disappointment, whereas coherence builds trust, loyalty, and a positive attitude toward the museum.

The post-visit stage is essential for long-term engagement and includes:

- thank-you and follow-up messages;
- access to digital resources;
- invitations to upcoming events;
- surveys;
- maintaining contact through social media.

All of this contributes to building a stable community around the museum.

4.7. Contemporary trends in exhibition design

Museum exhibitions of the 21st century are moving away from rigid "display-case" models toward narrative structures – stories that visitors experience. The main trends include:

- Participatory approaches – involving communities in the creation of exhibitions.
- Inclusivity – adaptation for people with diverse needs.
- Minimalist design – clean lines, simple forms, neutral colors.
- Multimedia texts – interactive panels, projections, audio prompts.
- Adaptive lighting – automatic adjustment of brightness depending on visitor flow.
- Eco-friendly materials – wood, glass, recycled plastics used in display cases.
- Narrative interfaces – texts presented as short stories, questions, or quotations.

- The museum as a space for dialogue – a new type of communication between the past and the present.
- Eco-exhibitions – the use of natural materials and principles of sustainable development.
- Open-air museums – integration of nature, architecture, and history (examples: *Shevchenkivskyi Hai* in Lviv, *Skansen* in Stockholm).

Sensory elements significantly enhance emotional engagement and help create a multilayered experience in which objects appear to "come alive."



Fig. 12. Interactive hall of the history of Kosiv ceramics. Kosiv Museum of Folk Art and Life of Hutsulshchyna. A branch of the National Museum of Hutsul and Pokuttia Folk Art named after Y. Kobrynsky. Kolomyia. Ukraine

Visual environment and artistic means

The artistic design of an exhibition includes color dramaturgy, compositional accents, lighting architecture, thematic installations, multimedia inserts, and atmospheric interiors.

Thanks to these tools, a museum can create a holistic aesthetic impact – ranging from calm contemplation to theatrical expressiveness, depending on the theme.

Personalization of experience

Emotional communication becomes significantly stronger when a museum offers an individualized dimension:

- author-curated routes,
- the ability to choose the level of informational complexity,
- interactive tasks,
- personalized media guides,

- the opportunity to create one's own interpretation.



Fig. 13. Museum of Pysanka Painting. A branch of the National Museum of Hutsul and Pokuttia Folk Art named after Y. Kobrynsky. Kolomyia. Ukraine



Fig. 14. Memorial to the Victims of Communism and of the Resistance. Sighetu Marmației. Romania

Personalization makes it possible to establish a personal connection that visitors will remember far longer than factual information alone.

A museum cannot manipulate emotions or artificially dramatize reality – emotion should emerge from the truthful stories of objects, human destinies, and cultural context.

An ethical approach includes respect for historical truth, avoidance of excessive theatricalization, sensitivity in addressing traumatic topics, and attentiveness to the cultural sensitivity of audiences.

Emotionality in a museum must be intelligent, appropriate, and justified by the subject matter, not an effect created merely for spectacle.

The contemporary museum ceases to be only a place of preservation – it becomes a space of cultural transformation, where the visitor's experience can influence self-identification, worldview, emotional state, social interaction, and local as well as cultural memory.

4.8. Partnerships and collaborations

Partnerships and collaborations are strategic instruments for the development of museums, enabling them to expand audiences, strengthen their cultural and educational mission, improve the quality of exhibitions, and optimize resources. In the contemporary museum environment, institutions increasingly move away from isolated operation and build networks of interaction with other cultural, educational, social, and business structures. Such cooperation helps implement complex projects, increase impact on local and regional communities, and integrate the museum into a broader cultural, scientific, and tourism landscape.

Partnerships provide museums with opportunities to:

- *Expand the resource base* – access to funding, technical equipment, expert support, and collection materials.
- *Improve exhibition quality* – joint work with other museums, academic institutions, artistic groups, or technology companies allows the realization of more complex and multifunctional projects.
- *Attract new audiences* – through partner channels, educational programs, and cultural networks.
- *Strengthen the museum's image and brand* – participation in prestigious cultural and scientific collaborations enhances the institution's reputation.
- *Promote social integration* – engaging communities, schools, local cultural centers, and volunteer organizations in joint projects.

Thus, partnerships become one of the key mechanisms of a museum's strategic development.

Intermuseum partnerships.

Cooperation with other museums, galleries, or archives makes it possible to:

- organize joint exhibitions and the rotation of exhibits;
- exchange experience in the fields of exhibition design, conservation, restoration, and marketing;
- implement scholarly and educational projects at regional, national, and international levels.

Academic and research collaborations.

Cooperation with universities, research institutes, and laboratories enables museums to:

- conduct scholarly research on collections;
- create exhibitions based on new scientific knowledge;
- organize educational programs and lectures;
- involve students and young professionals in practical activities.

Cultural and creative partnerships.

Collaboration with artists, theaters, design studios, and musical ensembles allows museums to:

- develop interactive and multimedia exhibitions;
- apply innovative technologies to engage visitors;
- combine the traditional museum environment with contemporary forms of art.

Business and sponsorship collaborations.

Interaction with the private sector includes:

- sponsorship support for exhibitions, restoration projects, and cultural programs;
- corporate partnerships for the implementation of social and educational initiatives;
- joint development of souvenir products or themed events.

Community and volunteer collaborations.

Museums can engage local communities, educational and social organizations, and volunteers in:

- participation in organizing events;
- creating content and local exhibitions;
- conducting educational programs;
- developing projects focused on cultural integration and inclusion.

Collaborations directly affect the quality and effectiveness of exhibitions by enabling:

- *Expansion of collection potential* – exchange or temporary inclusion of exhibits from other museums and private collections.
- *Innovation in the presentation of materials* – joint work with artists and technology partners makes it possible to integrate multimedia, VR/AR, installations, and interactive elements.
- *Broader audience reach* – partner networks provide access to new visitors as well as local and international communities.
- *Development of educational programs* – collaborations with academic and educational institutions support the creation of learning modules, lectures, and interactive activities.
- *Enhancement of the museum's cultural authority* – participation in joint projects with renowned institutions, scholarly circles, or artistic associations strengthens the museum's brand and reputation.

Effective partnership involves:

1. *Defining strategic goals* – a clear understanding of what the museum aims to gain from the collaboration.
2. *Selecting partners* – assessing the compatibility of values, mission, and resource potential.
3. *Developing the cooperation format* – contractual terms, distribution of responsibilities, timelines, and expected outcomes.
4. *Integrating the partnership into the exhibition* – planning joint events, interactive elements, and educational modules.
5. *Monitoring and evaluating effectiveness* – analyzing achieved results, audience reach, brand impact, and overall cultural effect.

However, the implementation of collaborations is associated with certain challenges, including:

- Differences in partners' goals and expectations;
- Issues of copyright and ownership of objects;
- Logistical difficulties related to the transportation and preservation of exhibits;
- The risk of losing the authenticity of the exhibition due to excessive commercialization or external influence;
- Lack of coordination in communication strategies among partners.

These challenges require careful planning, proper legal formalization of cooperation, and clear, consistent communication.

Despite certain difficulties during implementation, collaboration networks nevertheless enable museums to:

- increase flexibility and the ability to adapt to changes in the cultural environment;
- optimize resources and reduce costs for individual projects;
- create large-scale, interdisciplinary, and innovative exhibitions;
- generate social, educational, and cultural value for the community.

Thus, partnerships become *a strategic resource for development*, influencing all aspects of exhibition activity.

Exhibition activity is a creative synthesis of science, art, and pedagogy. Its success is determined not only by a scholarly approach to the selection of exhibits, but also by the ability to convey their meaning through the language of space, light, sound, and interaction. Contemporary museums seek to transform the viewer from a passive observer into an active co-creator of cultural memory. Exhibition activity constitutes the core of museum work, as it is precisely through exhibitions that museums realize their scholarly, educational, communicative, and culture-forming functions. Within this chapter, the exhibition is considered not merely as a collection of exhibits, but as a complex system of meanings, visual solutions, technologies, and communications oriented toward the contemporary visitor.

Thus, exhibition activity in the contemporary museum emerges as a complex, interdisciplinary process that integrates scholarly concepts, design, technology, communication, and partnership interaction. It is precisely this holistic model that enables museums to remain relevant, open, and socially significant within today's cultural landscape.

QUESTIONS FOR SELF-ASSESSMENT

1. How has the concept of the "museum" evolved from antiquity to the present day?
2. What are the main functions a museum performs in society?
3. What defines the specificity of museology as a scholarly discipline?
4. What ethical principles governing museum activity are defined by ICOM?
5. What trends in the development of museum practice can be observed in the digital age?
6. According to which main criteria are museums classified?
7. What are the differences between state, community, and private museums?
8. What is distinctive about open-air museums?
9. What museum profiles are identified in contemporary museological literature?
10. What innovative types of museums have emerged in the 21st century?
11. What are the principles of scholarly acquisition of museum collections?
12. What documents are used for the registration and inventory of museum objects?
13. What are the basic requirements for the storage conditions of museum collections?
14. How do conservation and restoration differ?
15. What contemporary challenges do collection departments of Ukrainian museums face?
16. What is a museum exhibition, and what is its primary function?
17. Which principles of exhibition design are key to its scholarly and aesthetic value?
18. How do permanent, temporary, and traveling exhibitions differ?
19. What are the main stages of creating an exhibition, from concept to installation?
20. What is "museum text," and what role does it play in an exhibition?
21. How do interactive technologies change the way visitors perceive exhibitions?
22. What rules of lighting and spatial planning must be considered when designing an exhibition?
23. How do interactive and multimedia elements enhance the accessibility of exhibitions for different visitor groups?

24. What are the main challenges in implementing contemporary digital exhibitions?

25. How are the safety and preservation of exhibits ensured during display?

26. What is a narrative structure of an exhibition, and why is it important for a modern museum?

27. How are the principles of participation and inclusivity implemented in contemporary exhibitions?

28. What examples of e-museum practices and digital technologies can be cited from international and Ukrainian museums?

29. How are virtual and augmented reality (VR/AR) integrated into museum exhibitions?

30. How does a modern museum differ from the classical "display-case" format?

31. Why is the exhibition considered the central product of a museum?

32. What levels of museum product structure are identified in product policy?

33. What are the main channels of communication and promotion for exhibitions, and how do they differ?

34. What advantages do partnerships and collaborations provide for museums?

35. How are communication and promotion interconnected with visitors' exhibition experience?

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TRAINING MODULE
«RESTORATION OF WOODEN MONUMENTS»

course support within the project
"Improving the visibility of common cultural heritage through Carpathian Cultural Route – HICART II"
from the interregional program
Interreg VI-A NEXT Hungary-Slovakia-Romania-Ukraine 2021-2027
HICART 2021-2027



Laura Zaharia

Baia Mare, 2026

FOREWORD

The course "Restoration of Wooden Monuments" is initiated by the Centre for the Development of Small and Medium-sized Enterprises of Maramureș Foundation (CDIMM Maramureș), within the project "Improving the visibility of the common cultural heritage through the Carpathian Cultural Route - HICART II" which it manages as Lead Partner.

The course was scheduled for February-March 2026 to be held by Arch. Laura Zaharia in a workshop, over 6 hours, based on the course material with the same title.

It is intended for owners of historical monuments, local public administrations, staff of non-governmental organizations active in the field of protection of historical monuments or related fields, and any lover of architectural heritage.

The course is not intended for specialists working in this field of protection and restoration of wooden monuments, but it can serve as a starting point for a future course intended for them.

CHAPTER 1. THE DIVERSITY OF WOODEN HERITAGE

In all geographical areas covered by forests, vernacular architecture was predominantly made of wood. The way in which the inhabitants of each geographical area used the available wood material is very diverse, given that they had to adapt to the context: from the type of wood, to climatic factors and last but not least to customs and traditions.

In the following, all continents are covered to remember one each of the most impressive achievements of humanity in the field of wood heritage.

1.1. ASIA - Japan

The tradition of "Shikinen sengu" (abbreviated Sengu) was established around 690 AD and was maintained uninterruptedly for 1300 years. Only thirty of these shrines, along with all the ceremonies that accompany each stage, survived until the 20th century. The case that has shaken the European theory of how to approach interventions on historical monuments is that of the Ise shrines, "Ise Shinto", where sixteen separate shrines together with sixty-five other buildings, bridges, fences and auxiliary structures, are completely rebuilt every twenty years on land adjacent to their current locations. The process begins a few years after the last shrine has been rebuilt, with the selection and felling of trees from the forest which is also cared for so that it can continuously provide timber for the "Shikinen sengu". Then it continues with the cutting of the wooden material, the shaping and construction of the buildings in protected spaces, concluding with their dismantling and construction on the new site of the sanctuary. Each stage is accompanied by specific ceremonies.

This tradition of reconstruction is remarkable for several reasons. First of all, it preserves an ancient architectural style of a fragile material (wood), which is unique because it provides precious information about 1300-year-old working techniques. By comparison, the oldest Romanian wooden churches date back to the 16th century, and only constructive parts of some of them go back further in time, to the 15th century. We are very happy when we discover a certain lost tradition of building that was lost during the 500 years, but we know nothing about the way of life or the way the people of these places built 1300 years ago.

Secondly, the "Shikinen sengu" tradition preserves ancient construction techniques, from conception to the acquisition of timber from the temple's forests (which are cared for and regenerated so as to ensure continuity in the supply of timber necessary for the cyclical restoration of the temple), then to the shaping of the materials, all scheduled years in advance (the recent cycle lasted a total of seventeen years from the cutting of the trees to the final ceremony when the sacred objects were transferred from the old temple to the new one), and of course, the ceremonies associated with each stage. Last but not least, the transmission of traditions to the next generation is also remarkable, which constitutes a chance for future generations to have a perspective on the way of construction preserved since the 7th century (Adams, 1998, 49).



Fig. 1 An image showing both the new Ise Shinto shrine (left) and the old temple before it was demolished (right). Source: Japan Woodcraft Association, chapter "Traditions", article "Shikinen Sengu" dated 13.02.2020. Available at: https://japanwoodcraftassociation.com/2020/02/13/traditions-shikinen-sengu/

1.2. EUROPE - Norway and the Nordic countries (Sweden, Finland)

Stave Kirke are medieval wooden churches that were once typical of northwestern Europe. Today, only Norway still has a few examples that are cared for with great care and professionalism. The specific construction consists of walls made of joined pillars, similar to palisades, connected horizontally with beams placed at the base, at the top and in some places in between. On the outside, the succession of roofs with high slopes, covered with thick shingles, dominates, and on the inside, these roofs display an elegant and spectacular structure, reminiscent of the holds of the wooden ships of the Vikings.

Despite their age and the craftsmanship with which they were built, Norway has proposed only one church for inclusion on the World Heritage List: Urnes stavkyrkje .



Fig. 2 Urnes Stave Church (Stave Kirke). Norway. Source: Superbass (2023). Stabkirche Urnes. Wikimedia Commons. Available at: https://commons.wikimedia.org/wiki/File:2023-07-04-Stabkirche_Urnes-6781.jpg

1.3. EUROPE - Poland, Czech Republic and Slovakia

These are among the richest European countries in terms of forest resources, so wood architecture is also worth analysing.

For example, the Church of the Assumption of the Virgin Mary in Haczów is a Gothic wooden church that is part of the series of Wooden Churches of Southern Lesser Poland, thus included on the UNESCO World Heritage List. The church in Haczów is the largest Gothic wooden church in Europe and, at the same time, one of the oldest wooden churches in Poland. The wooden material has been dendrochronologically dated to the beginning of the second half of the 15th century, after 1459. The interior of the church has polychrome wood painting, dated to 1494, of considerable age, probably the oldest polychrome of this type in Europe, and also the oldest collection of medieval paintings in Poland.



Fig. 3 Church of the Assumption of the Virgin Mary in Haczów. Poland. The image is actually the point cloud of the laser scan of the monument (a modern digital documentation method that uses laser scanners to generate very accurate 3D models of the construction). Source: "Digital UNESCO" site, page dedicated to the Church in Haczów. https://digitalunesco.pl/portfolio-item/haczow-en/

1.4. EUROPE - Germany and France (Alsace)

Fachwerk is the medieval European style of "timber-framed houses" or "spider houses", with a structure of wooden beams, posts and bracing, and infill of

masonry (brick, stone or adobe) or wickerwork (or a network of slats) glued with clay. It spread in medieval central Europe, mainly in Germany and Alsace. Later it spread to the American continent, "exported" by German immigrants. Today, the historic centers of cities in these areas can still be seen, built almost entirely in the "fachwerk" technique. A large part of these historic centers was rebuilt after World War II, having been devastated by bombing.



Fig.4 Image of the reconstructed Frankfurt city centre, as an example for the historical, medieval centers of Germany and Alsace. Source: Mylius (2007). Frankfurt am Main – Samstagsberg. Wikimedia Commons. Available at: File:Frankfurt Am Main-Samstagsberg-20070607.jpg - Wikimedia Commons

1.5. AMERICA - North America (USA and Canada)

The Haida villages, located on Haida Gwaii (UNESCO site), an archipelago off the north Pacific coast of the Canadian province of British Columbia, are inhabited primarily by the Haida people. The villages stretch along the Pacific coast, with the chief's house occupying a central position, while the houses of lesser chiefs are aligned on either side, reflecting the social structure and rank within the community. The distinctive architecture of Haida houses consists of dwellings, often multi-family. These houses are among the largest structures in pre-European North America, reaching up to 30 meters in length, which could accommodate between 30 and 40 family members.

They are simple constructions made of red cedar wood, in a robust post and beam structure, with perimeter enclosures of thick cedar planks, without windows. Inside, there are one or more large spaces around the fire that is used for cooking and heating, and the sleeping areas are arranged on raised platforms, often separated by partitions, covered with animal skins and cedar mats. In front of the house, invariably, a monumental totem pole rises, with a role of protection for the

family, but also as a support for displaying elements of clan membership, family coats of arms, notable events or legends related to the family. The villages are classified as a UNESCO World Heritage Site, and are vehemently protected by the Council of the Haida Nation which "fights for the independence, sovereignty and full self-sufficiency of the Haida Nation".



Fig.5 Longhouse, typical of Haida villages, British Columbia, Canada. Source: Arnold C (2006). First Nations art at the Museum of Anthropology at the University of British Columbia. Wikimedia Commons. Available at: https://commons.wikimedia.org/wiki/File:Moa-2.jpg

1.6. AFRICA - Madagascar

Although forests are not representative of the African continent, they are present in the central and western areas where abundant equatorial and tropical forests extend, but also in some high mountain areas.

In the forested mountains of the highlands of Madagascar lives an ethnic group called the Zafimaniry, known for their knowledge and art of working with wood, from skilfully executed carpentry, without nails but only with "tongue and groove" joint systems, to the symbol-laden decorations that cover all the surfaces of household items. The Zafimaniry craft was included on the UNESCO Representative List of the Intangible Cultural Heritage of Humanity under the name "Craftsmanship of the Zafimaniry, woodworkers" precisely for this unique fusion of technique, aesthetics and profound symbolism.



Fig. 6 Zafimaniry village , with wooden houses. Madagascar. Source: Cabarrocas Garcia, A. (2009). Wooden houses in a Zafimaniry village in central Madagascar. Wikimedia Commons. Available at: https://commons.wikimedia.org/wiki/File:Zafimariny_Village_Madagascar.jpg

1.7. AUSTRALIA

Vernacular architecture on the Australian continent has long been underestimated. Colonialists generally classified the local populations as nomadic and, implicitly, without well-defined settlements. The situation was convenient for the expansion of the first settlers into the newly "conquered" lands.

However, the native populations needed shelter, and more than that, their spiritual needs also had to be protected. Vernacular architecture is based here, as everywhere, on local materials and adapts to the arid climatic conditions and the way of life in close communion with nature.

1.8. ANTARCTIC

Forests are non-existent on the Antarctic continent, and yet here there is a complex of wooden structures that are protected as international heritage sites under the Antarctic Treaty's Historic Sites and Monuments program: "Scott's Hut and the Explorers' Heritage of Antarctica".



Fig.7 Dome house in the Torres Strait Islands. Bamboo structure and leaf covering from a local species of reed (blady grass, "Imperata cylindrica" lat.). Photograph from the 1900s. Source: Images are extracted from the volume "Dark Emu: Black Seeds: Agriculture or Accident?" written by Bruce Pascoe in 2014. Available at: https://images.squarespace-cdn.com/content/v1/5cf30ff26df8f90001ae648d/1566723152721-EDH649841ATFHV45EFI5/Dome+house.jpg

This ensemble comprises several historic wooden huts, built in the early 20th century on the only continent at that time untouched by humans. Small prefabricated wooden huts were built on the shores of the continent and served both as homes during the coldest months and as laboratories for research into the local climate and ecosystem. Insulation was provided by seaweed mattresses, placed between the interior and exterior plank walls. The roof was also multilayered, made of Tego plywood and thermally insulating seaweed mattresses, protected in places on the outside with wooden planks.

In recent years, climate change has also had repercussions in this area, where global warming has triggered large amounts of precipitation over Ross Island. Moreover, the increase in the number of visitors (tourism, but also researchers),

has brought with them negative effects such as microbial infestation and wear and tear. However, remarkably, after more than a century, the structures are still intact and benefit from the care of international organizations.



Fig.8 Scott's hut. Antarctica. Source: World Monuments Fund official site. Available at: https://wmf-production.nyc3.digitaloceanspaces.com/images/00_ata-scotts-hut-ext-gen-w08.jpg?auto=format,compress&fit=max&w=1024

CHAPTER 2. THE HERITAGE OF WOOD IN ROMANIA

2.1. Wooden churches in Romania listed as UNESCO World Heritage Sites

In Romania, the wooden heritage is very rich and at the same time very diverse. The most famous are the 8 wooden churches in Maramureș County, inscribed on the UNESCO World Heritage List, chosen from 3 ethnographic areas: Maramureș Land (Bârsana, Budești, Desești, Ieud Deal, Poienile Izei), Chioar Land (Șurdești and Plopiș) and Lăpuș Land (Rogoz).

The arguments of the UNESCO commission are explicitly contained in the following sentence: "The wooden churches of Maramureș are remarkable examples of vernacular religious architecture in wood, resulting from the exchange between Orthodox religious traditions and Gothic influences, in a specific vernacular interpretation of wooden construction traditions — demonstrating a high level of artistic maturity and craftsmanship."

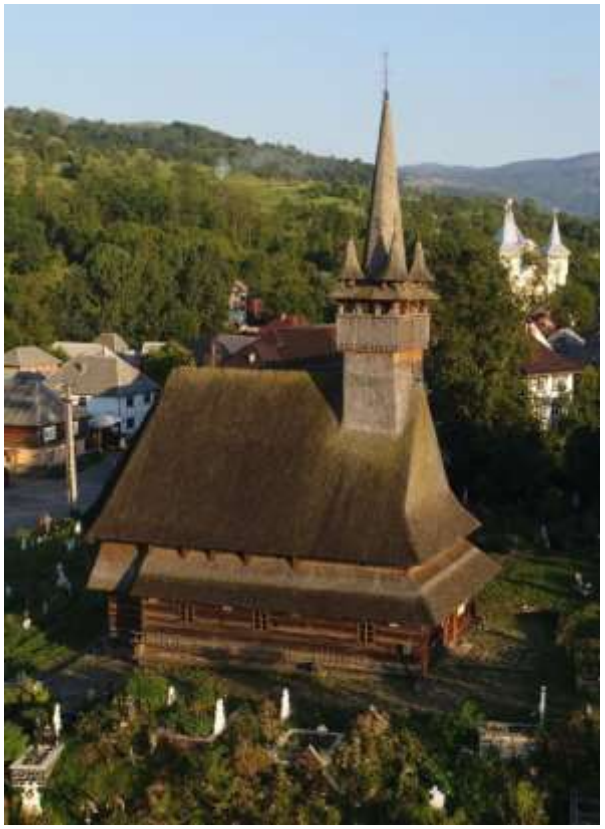


Fig.9 Wooden church in Budești Josani, Maramureș County. Maramureș wooden church dated 1643, a "magnificent" construction for its era and long after. Source: The site "Wooden churches in Maramures Country. Virtual tours". Available at: https://maramures.culturamm.ro/ biserica-de-lemn-sf-nicolae-din-budesti-josani-monument-unesco/ , photo Peter Lengyel

2.2. Wooden churches listed in the national and local heritage of Romania

Dr. Alexandru Baboș, architect-historian-researcher with an invaluable contribution to the research of wooden churches in Romania, and especially those in Maramureș, outlines very clearly and generously argues the value of the ensemble of Romanian wooden churches. The text that was published on the page dedicated to wooden churches on the Wikipedia site is important to read in order to understand the complexity of these "dowry chests" that still populate the space of wooden heritage in Romania. This is a general exposition carefully made for the general public. For those eager to deepen his studies and detailed research, they are uploaded on the page https://lunduniversity.academia.edu/AlexandruBabo%C5%9F



Fig. 10 The wooden church in Putna, Suceava County. The oldest wooden church in Romania, dated 1401-03, with two extensions to the west, the first in 1778 and the second in 1871. Source: Suceveanu, C. (2010). Wooden church of Putna. Wikimedia Commons. Available at: https://commons.wikimedia.org/wiki/File:Biserica_de_lemn_din_Putna.jpg

The Wikipedia page dedicated to "Wooden Churches in Romania" https://ro.wikipedia.org/wiki/Biserici_de_lemn_din_Rom%C3%A2nia explains the construction system of wooden churches, exposes the deep roots in Romanian history for sacred construction art, reveals the art of church craftsmen and the concept of "Heavenly Jerusalem", the mystery of access portals and the role of murals as "bibles of the poor". Last but not least, it showcases the diversity in unity of wooden churches across Romania, through visual examples highlighting the specifics for each area (Transylvania, Moldova, Wallachia, Dobrogea) or for minority communities (Reformed wooden churches, Ukrainians, synagogues) and even extending the presentation to Romanian wooden churches across the border (Republic of Moldova and Transcarpathia, south of the Danube in the Morava-Timoc area).

2.3. Vernacular wood architecture

Vernacular architecture is the architecture specific to the place, built with easily procured materials, crafted most often by the future user, in a cast-iron pot, rarely with specialized craftsmen. It is architecture without an architect – an architecture of common sense and utility expressed in every gesture, with a spontaneous and sincere aesthetic.

The vernacular heritage of wood is very vast for Romania, and unfortunately it is on the verge of extinction. The phenomenon of extinction began with the forced

urbanization of villages initiated by Nicolae Ceaușescu, in 1988, when under the pretext of modernization, the construction of apartment buildings and the demolition of traditional houses was stimulated. It did not take long and the revolution of 1989 continued the destruction of the traditional character of the villages, without the intention of continuing the communist program of rural "development", but allowing the demolition of old houses and the construction of new ones, out of scale and without any intention of fitting into the local specifics, or at least into some minimal aesthetic norms. All this situation is due to the representatives of local authorities in the rural area, who let the situation get out of control, largely due to their illiteracy and lack of civic spirit.

We are left with open-air museums that preserve valuable samples of the vernacular heritage of wood, and in some places a few reserves of vernacular architecture preserved "in situ".

The end of the 19th century was the period in which the idea of preserving the most representative examples of vernacular architecture was born, following the model given by the king of Norway and Sweden who transferred in 1881 several houses and a stavkirke church to a royal domain, to be visited by the public.

The first open-air museum appeared in Sweden: the Skansen Museum in Stockholm founded in 1891, as a reaction to the rapid loss of rural traditions with industrialization and urbanization.

Following the Skansen model, the "Dimitrie Gusti" National Village Museum in Bucharest was opened in Romania in 1936 on the shores of Lake Herăstrău.

In the 1960s and 1970s, the ASTRA Museum in Sibiu opened, which is the largest open-air museum in Europe, with continuous and effervescent development, rewarded with international awards.

In Maramureș we have 2 open-air museums, which are also developing beautifully, thanks to a leadership with a young spirit that has as its model the inspirational route of the ASTRA Museum:

- The Maramures Village Museum in Sighetu Marmației on Dobăieș Hill, founded in 1981 by Francisc Nistor, assisted by Mihai Dăncuș.

- Village Museum - the vernacular architecture section of the Maramureș County Museum of Ethnography and Folk Art in Baia Mare, on Dealul Florilor, established in 1984 with the contribution of ethnographers Sabin Şainelic and Janeta Ciocan.

But vernacular architecture preserved IN SITU, where it was created and charged with all the meanings of human life in communion with nature, is what generates the cultural richness of the rural world. The best comparison to explain this idea is that of the old city centers that outline the historical identity of the local community and create a charming ambiance for both locals and visitors. Why shouldn't villages also have a nucleus that preserves the tradition of living, so diverse from one ethnographic area to another?

A few "reserves" of traditional IN SITU wooden architecture are preserved, but everywhere there are also traces of the aggression of non-urbanism that still proliferate.



Fig.11 Mill on the Rudăria River. Source: Ionut Bizau (2015). "Îndărătnica Nouă" Mill (Eftimie Murgu, Caraș-Severin, Romania). Wikimedia Commons. Available at: https://commons.wikimedia.org/wiki/File:Moara_%22%C3%8End%C4%83r%C4%83tnica_Nou%C4%83%22_(5).JPG

Maramureș – It is the most famous area for traditional wooden architecture, but today the traces of the famous "wooden country" are preserved in isolation.

Apuseni - The high plateaus of the Apuseni, difficult to access and far from the main traffic routes, still preserve some examples of vernacular architecture.

Dobrogea - "Literally born from the clay that covers their foundation, the houses of the Delta are ... pure matter built to shelter their creator." "The extreme modesty of the compositions, the lack of emphasis and the total absence of any hollow rhetoric give the vernacular architecture of the Danube Delta a spiritual air that we can very rarely find today." (Andreșoiu, 2008, 8)

Wooden gates from Szeklerland - The traditional Szekler gate is considered the fundamental act of identity of the Szekler people. It differs from those from Maramureş in its decoration that abounds in floral motifs (mainly the tulip as a specific symbol) and is sometimes enriched with color.

Water-powered installations - "In the Rudăriei Valley, 22 mills with a ”ciutură” (ciutură = horizontal wheel with radial cups) have been miraculously preserved, out of the 40 that existed. Over a length of 3km, the peasants of Rudăriei Valley have maintained an ingenious mill complex over time, capable of solving the

grinding needs of the several hundred families at the time of the maximum expansion of the locality" https://ro.wikipedia.org/wiki/Comuna_Eftimie_Murgu,_Cara%C8%99-Severin

CHAPTER 3. SAFEGUARDING THE WOOD HERITAGE IN ROMANIA

3.1. Safeguarding wooden churches in Romania

Interventions to safeguard wooden churches are difficult to initiate and materialize:

- requires thorough documentation that must undergo the entire approval procedure, including approvals from the Ministry of Culture, and last but not least, the Building Permit itself.

- the entire authorization procedure is done based on a project prepared by a complex team, whose fees, even if they are not high for each specialist, taken together add up to a consistent value, which is usually a great challenge for small parishes in rural areas.

- the restoration project, once completed, also delivers an investment value for the actual construction works, for all the necessary restoration interventions. The estimated quote values within the project are high and we all know the financial difficulties we are going through, where culture and education are always at the top of the priorities of central and local authorities.

- searching for funding sources is difficult, parish priests have to knock on many doors to find information that will lead them to a funder, and NGOs involved in safeguarding actions write countless funding projects, not all of which have a chance of success.

- finding a team of craftsmen and restorers is not easy, because they must be specialized in restoring wooden monuments, and there are very few such teams in Romania.

That is why private initiatives supported by non-governmental organizations are extremely valuable, both for the restoration or rescue work they initiate and for the effect they have on local communities.

3.1.1. Ambulance for Monuments

The Ambulance for Monuments is a project initiated in 2016 by the Monumentum Association and developed by a series of existing or newly created heritage organizations with independent activity in several regions of Romania.

The project aims to act effectively in the field of safeguarding immovable heritage by securing important heritage sites in an advanced state of degradation or pre-collapse. Over 600 historical monuments in Romania under private or public ownership are awaiting emergency rescue and their number is growing alarmingly. The “Ambulance for Monuments” project works to secure immovable

cultural heritage with the help of volunteers, craftsmen and local communities under the strict supervision and guidance of specialists in the field of conservation and restoration of historical monuments.



Fig.12 Ambulance for Monuments at the church in Brusturi, Sălaj County. Source: "Ambulance for Monuments" website, "Interventions" chapter. Available at: https://ambulanta-pentru-monumente.ro/brusturi-biserica-de-lemn-sf-arhangheli-mihail-si-gavril-sec-xviii-brusturi-jud-salaj/

The results of the Ambulance for Monuments have gone beyond the country's borders, the successes are appreciated internationally and have materialized in several awards offered by the most prestigious and demanding international institutions in the field of immovable heritage, such as the Europa Nostra Award 2020 (section "Education, Training and Awareness"), the "Public Choice / Public Award" Europa Nostra Audience Award 2020 or the 3rd Prize at Best in Heritage 2021.

3.1.2. Wooden Churches Association

The Wooden Churches Association was born in 2021 after a period in which the Wooden Churches collective coalesced around the church in Crivina de Sus, which

is the oldest wooden church in Banat (1677). It was followed by the Povergina Crafts School, conceived in 2015 when the historic church dedicated to the Archangels Michael and Gabriel from Povergina (Timiș County, LMI TM-II-mA-06275) burned down.



Fig.13 Intervention of the Wooden Churches team at Crivina de Sus. Protective structure of the wooden church, Timiș County. Source: Zpeeplin Magazine no. 141 of 2016, https://e-zeppelin.ro/despre-adapost-regasire-si-o-acoperire-provisorie-a-bisericii-de-lemn-din-crivina-de-sus/

"The declared goal of the association is to revitalize interest in the unique heritage of wooden churches in Romania, by collaborating in a stimulating, ethical and emulating manner with the competent institutions, with experts in the field of heritage, as well as with local communities, in order to address the essential problems faced by the cultural heritage preserved in wooden churches." https://biserici-inlemnite.ro/ro

The Povergina stage was awarded in the "Summer camps, summer schools of traditional crafts" section of the 2025 National Architecture Biennale .

The "Inventory of Wooden Churches" is also underway. It began in 2021 with the help of the Vernacular Cultural Association, with a pilot project in Arad County, continued in 2022 in Iași County, in 2023 in Gorj County and then starting in 2024 in Hunedoara County. The inventory work of the Wooden Churches Association is published on the association's website, on the page: https://biserici-inlemnite.ro/app

3.1.3. Pro Patrimonio Foundation

The Pro Patrimonio Foundation, established in 2000, runs a series of projects that focus on practical projects for the protection and rehabilitation of heritage, but also on the involvement and awareness of local cultural values by communities. Volunteers are also welcome here; their number exceeds 100 enthusiastic young people.

The " *60 Wooden Churches" Project was initiated in* 2009 by arch. Şerban Sturdza, with the support of the Order of Architects of Romania, in which emergency interventions were started for some of the most degraded wooden churches in Sibiu, Hunedoara, Gorj and Vâlcea counties.

The most famous of the Pro Patrimonio projects, and also the most awarded, is that of the wooden church in the village of Urși, Vâlcea county. The works lasted 10 years and included the consolidation of the painting, the dismantling of the vault (the beams and iconostasis being restored at the National University of Arts Bucharest), the creation of new stone foundations, the replacement of rotten footings and beams in the structure, the restoration of the vault, the roof truss and the slate covering, the conservation of the interior and exterior frescoes, the repair and completion of the interior furniture and the vertical systematization (IGLOO, 2021).

The year 2021 was the year of great awards for the Church in Urși:

- Award of the European Commission and the Europa Nostra organization, in the Conservation category of the European Heritage Awards;
- Grand Prix for the Wooden Church in Ursi at the Europa Nostra Awards;
- Audience Award for the Wooden Church in Urşi at the Europa Nostra Awards.

3.1.4. Period 1970-2015: architect Niels Auner

Niels Auner is the architect who, in over 30 years of activity, contributed to the restoration of an impressive number, over 100 wooden churches, most of them in Maramureș and Sălaj.

In the early years of his career, he trained under the architect Virgil Antonescu, who had a constructive role in the restoration of wooden churches in Maramures (and beyond). His first important work was in 1973: the relocation of the wooden church from Onceşti to the Village Museum in Sighet. From then until 2015, the architect Niels Auner was the reference person in the field of architectural and structural restoration of wooden churches. Without him, many of these saved monuments would probably have followed the path of so many other wooden churches forgotten by local communities, left to return to nature, with the discretion specific to wooden constructions.



Fig.14 The wooden church in Urși village, Vâlcea county, during the intervention works. The church's the nave of the church was lifted, and the exterior painting was consolidated so that the intervention works on the structure would not affect the painted surfaces. Source: IGLOO Magazine, no. 203 of 2021. Available at: https://www.igloo.ro/biserica-de-lemn-din-satul-ursi-restaurata-de-fundatia-pro-patrimonio-printre-castigatorii-premiilor-europene-pentru-patrimoniu/

Despite the extent of the restoration work in which architect Niels Auner was involved, each of the objects restored under his baton must be analysed with objective rigor, because there are situations in which a more or less significant part was eliminated during the restoration work, these elements being irreversibly lost. Of course, this loss is less serious than the loss we would have had if no intervention had been made on the respective monument, but it would be wrong if these situations were not recorded as part of the history of the monument.

3.1.5. Period 1960-1970: architect Virgil Antonescu

"Paradoxically, the communist period was a beneficial one, in which most of the wooden churches were included in the List of Historical Monuments (1955-1977), with careful highlighting of them and conservation/restoration works. The restorations of the wooden churches in Maramureș led by the architect Virgil Antonescu (1960s - 1970s) are noteworthy, which became a benchmark for the conservation school of that time, through which wooden churches throughout the country were maintained and restored. These works were initiated by the structures of the Ministry of Culture and carried out by teams of craftsmen led by specialists, through which the wooden churches reached relatively good conditions until after '89." (Obradovici, 2020,24).

The 4 churches in Maramures restored under the leadership of Virgil Antonescu are those in Cuhea (Bogdan Vodă), Ieud-vale, Surdeşti and Plopiş. The works are presented explicitly in an article that appeared in the magazine " *Monuments, Studies and Restoration Works" that appeared in 1964.* It is noticeable that even in these restoration works the component of restoring the interior painting was missing. The emphasis was on the structural rescue of the monument, that of the artistic components remaining in second place, for subsequent stages that most of the time did not follow.

3.1.6. R.O.S.T. Association and the churches of Maramures

Since 2017, the Association for the Organic Rehabilitation of the Traditional Village has had several initiatives in the field of safeguarding wooden churches in Maramureș County, mainly within the framework of the work of changing the wooden coverings for the churches in Călinești-Căeni, Călinești-Susani, Breb, Coaș, Bogdan Vodă and Ulmeni.

Within the association, arch. Laura Zaharia initiated the start of the reconstruction works of the church in Buteasa, whose roof collapsed in 2019, and the restoration works of the church in Breb. To date, the restoration projects have been completed, in all phases, from DALI, to DTAC and recently PT

3.2. Safeguarding the vernacular wood heritage of Romania

3.2.1. Architectural guidelines for fitting into the local specifics of the rural environment. 2018

An initiative of the Order of Architects of Romania, carried out through the RURAL working group starting in 2018, materialized in 53 "Architectural Guides for fitting into the local specificity of the rural environment" for as many ethnographic areas in Romania.

"The guides aim to present a set of easy-to-apply rules, with clear examples, to facilitate the choice of appropriate models by those who want to build in rural areas. The essential objective of this series of guides is to preserve the spirit of rural settlements in Romania and increase the quality of life in rural areas, while preserving traditions and the existing cultural landscape. All of these are seen as basic resources for the sustainable development of rural areas" (OAR, 2018).

The guides have an advisory role, but if the prescribed rules are taken over in the Urban Planning documentation (PUG, PUZ, PUD) they receive the status of law, and must be strictly followed. It depends only on the local authorities and how they monitor their compliance.

3.2.2. Route of villages with traditional houses: Breb Village, Maramureș. 2023-2025

Recently, in the village of Breb in Maramureș County, a large project is being implemented in which 12 traditional houses are being rehabilitated. The project is financed through the PNRR National Recovery and Resilience Plan, Pillar IV. Social and Territorial Cohesion, Component C11-Tourism and Culture, Investment I1-Promotion of the 12 tourist/cultural routes. The Maramureș County Council manages this project, and to promote it has created a separate site: https://patrimoniulvernacularbreb.maramures.ro/ . Here you can identify each objective by GPS coordinates, along with images and a description of the works.

3.2.3. Initiatives in Alba County

The thatched roof huts on the Transapuseana have been the subject of a rescue and enhancement initiative, which we hope will continue in the coming years: ALBA VERNACULARĂ - The route of the thatched roof huts on the Transapuseana - is a project initiated by the National Museum of the Union of Alba Iulia with the support of the Alba County Council. The ALBA VERNACULARĂ project aims to identify, inventory, document, map, promote and capitalize on the thatched roof huts located along the "Transapuseana" road. "They ensure the uniqueness of the cultural landscape and are part of the tangible inherited heritage that ensures local identity. They are a true "landmark" of the area, able to contribute to the sustainable development of rural communities" as stated by the initiator of the project Dumitrița Filip.

The Bucium Summer University for the Restoration of Monuments and Sites, under the high patronage of the Romanian Academy, is a project initiated and coordinated by the RPER Association - Rencontres du Patrimoine Europe Roumanie. The project proposes a model for safeguarding the cultural heritage of the Bucium commune, Alba county, thus offering a viable alternative for local development, in contrast to the destructive mining projects that threaten the communes

Bucium, Roșia Montană and their surroundings. Starting with 2011, every year, approximately 20 young people learn the direct, interdisciplinary, interactive approach to rural heritage and are stimulated in their professional orientation towards the subject of protection and valorisation of unprotected and neglected heritage.

3.2.4. PRO PATRIMONIO initiatives

"The emergency intervention project for the rescue and rehabilitation of the George Enescu House in Mihăileni, Botoșani County, started in 2013 at the initiative of pianist Raluca Știrbăț, president of the International George Enescu

Society in Vienna. The Pro Patrimonio Foundation, the Order of Architects of Romania, Bucharest Branch, the Remember Enescu Foundation, whose president is violinist Alexandru Tomescu, have joined forces to save a landmark of great importance for national identity and European cultural heritage."

From the experience of this restoration we could learn a few lessons: no matter how damaged a building is, the architect must first analyse how to preserve as much of the historical substance as possible, before deciding to make a copy. Authenticity and original material increase the value of the place and have an impact on the community, which we often underestimate. Another important aspect was the collaboration with the locals at the level of ideas, both the restoration solutions and the way to use the house after the repair were born from these discussions, which were not thought out from behind a drawing board." https://e-zeppelin.ro/casa-lui-george-enescu-din-mihaileni-jurnal-de-campanie-pentru-arhitectura-si-comunitate/

3.2.5. Szekler area

The local authorities in Covasna and Harghita counties financially support, along with the logistical support of NGOs such as the Kőlik Cultural Association, the Association for the Protection of Historical Monuments in Ciuc or the "PRO Zetea" Association, the rehabilitation of old Szekler gates and the construction of new gates in the traditional style, with the aim of preserving the specificity of the area. Such initiatives have taken place in the communes of Brădești, Mugeni, Feliceni, Satu-Mare, Zetea and in the Ciuc area.

Architects in this area have a special sensitivity for the preservation of vernacular heritage. Architect Miklós Köllő from the LARIX STUDIO architectural office has become the spearhead in this field in recent years, and also the most visible person in the public space, who promotes with great charm and intelligent arguments the need to preserve vernacular heritage.

3.2.6. Danube Delta

One of the first steps to preserve vernacular heritage, which emerged after 1989, was in the Danube Delta, where a group of young architects designed a design regulation for any new building to be built in the Delta: " URBAN PLANNING FRAMEWORK REGULATION to ensure respect for landscape values and local architectural traditions within the perimeter of the Danube Delta Biosphere Reserve".

The Danube Delta Biosphere Administration supported this approach, given that its management tools include the protection of built heritage. Over time, numerous activities have taken place that have detailed or implemented this regulation.

There are good examples of rehabilitation of existing buildings (Casa Filip in Sarichioi https://adelaparvu.com/2019/06/20/casa-filip-un-reper-de-arhitectura-traditionala-in-delta/) or of building with local techniques and materials (Eco Chilia. Reintegration Centre in the Delta https://e-zeppelin.ro/eco-chilia-centru-de-reintegrare-in-delta/), but what was created at Mila 23, at the "Ivan Patzaichin Museum - Community Innovation Centre" is quite special, both from the point of view of the architecture which is inspired by traditional architecture but is integrated into a complex with a very contemporary image, and from the point of view of the way in which it celebrates Ivan Patzaichin's successes and provides a framework for exposing his concerns regarding the Delta, encouraging and expressing the culture and traditions of the Lipoveans from Mila 23 and for highlighting fragile biodiversity. of the Danube Delta.

CHAPTER 4. STEPS FOR RESTORING MONUMENTS

This chapter goes through the steps that need to be followed for restoration – either of a historical monument or of a vernacular construction. The principles are similar, the difference lies in the lack of an approval procedure at the Ministry of Culture which is not necessary in the case of vernacular architecture, and in a certain permissiveness in the approach to restoration in the case of the latter. It should be noted that the principles of a correct restoration are the same, even if the object is not classified as a historical monument.

4.1. Initiation

It is very important that the owner of the monument is the one who initiates the restoration of the monument, because in this way they assume long-term legal, cultural and functional responsibility.

It is wrong to view the restoration of a monument as a one-time "rescue" gesture. The life of the monument continues even after the works are completed, it must have a mode of operation that ensures its survival, and an authority that oversees the maintenance work that must be done periodically.

In Romanian law, the owner of the monument is legally responsible for the integrity of the monument and is responsible for maintenance, interventions and use. A correct restoration starts from the way of use after the intervention. Only the owner knows how he will use the building and how he will manage the costs of maintenance, use and upkeep. Once the monument is restored, it requires continuous maintenance, those maintenance works that are always neglected. This can only be done if the monument will have as active a use as possible.

There are situations in which non-governmental organizations initiate these efforts, but they permanently need the owner's consent and support, otherwise the whole effort can be challenged at some point. Moreover, the NGO can

withdraw or dissolve, during the works or after their completion. It is right for NGOs to get involved in supporting, advising, financing (if they have this capacity) and mobilizing vital pawns throughout the restoration process.

These problems can be seen in the case of the Herculane Project – Saving the architectural heritage of Băile Herculane, which started in 2017, after a group of architecture students who visited Băile Neptun during their summer vacation were deeply moved by the state of degradation of the historical ensemble and shaken by the carelessness with which this impressive ensemble of Băile Herculane was left to be destroyed. After a period of intense activity rewarded in 2022 with the inclusion of Băile Neptun on the list of "7 Most Endangered Heritage Sites in Europe" (an indicator of the serious state of the ensemble and the importance of urgent rescue and restoration interventions), the problems generated by the unclear legal situation of the buildings, the enormous budget for emergency interventions and of course for the restoration of the complex, the lack of support from local authorities who tend to withdraw even more with the excuse that the NGO took over the initiative, etc. Thus, in recent years, the Herculane Project team has changed the way it poses the problem and focuses more on actions for "social & cultural reactivation of the resort", with the secondary goal of contributing as much as possible to clarifying ownership of the monuments and carrying out a complex restoration project.

So the correct model for initiating the restoration of a monument is: owner as initiator + NGO as partner.

4.2. Design

After the owner of the monument has decided on the need to restore the monument and has outlined its future use, he must contact an architect certified by the Ministry of Culture for interventions on historical monuments.

Why an architect? Why not an engineer? Or a surveyor?

Because through their training, the architect is trained to visualize a building as a whole. By conforming it from an architectural point of view, they approach it together with all its components, from the structure to the architectural lighting.

Within a restoration project, there are several specialized teams, and the architect is the conductor who makes all these teams converge towards the same restoration concept of the building.

In the case of intervention on classified historical monuments, the design works will be carried out by specialists and experts certified by the Ministry of Culture. The updated lists of specialists and experts can be found on the website of the National Institute of Heritage INP: https://patrimoniu.ro/ro/profiles/atestarea-specialistilor-si-expertilor

The duties of specialists and experts can be consulted in Articles 20, 21 and 22 of the Methodological Norms of May 14, 2025 regarding the certification of

specialized personnel in the field of protecting historical monuments: https://legislatie.just.ro/Public/DetaliiDocumentAfis/298121

4.2.1. Structure of a design team

Here is the structure of a design team for the restoration of a historical monument:

- architecture
  - defines the function of the building (plans, functional diagrams)
  - establishes form (concept, volume, finishes, decorations)
  - provides assistance in obtaining the Building Permit
  - monitors the correlation of specialist teams (structure, installations, exteriors)
- structure (wood, metal, concrete, brick, structural glass)
  - main structures (foundations, floors, beams, trusses, roof trusses, etc.)
  - secondary, non-structural structures (partition walls, joinery, false ceilings, etc.)
- electrical installations - strong currents
  - electrical supply (electrical connection, measuring and protection block, general switchboard)
  - distribution (secondary panels, socket circuits, lighting circuits, equipment circuits)
  - consumers (indoor/outdoor lighting, sockets, equipment, heating)
  - lightning rod
- electrical installations - low currents
  - safety and protection (fire detection and alarm, smoke/temperature/gas detectors, alarm, voice alert)
  - security (anti-burglary, access control, video intercom, video surveillance)
  - communications and data (data networks, internet, telephony, Wi-Fi, fiber optics)
  - audio-video and signaling (sound system, guidance systems, electronic display)
  - automation (BMS/Building Management System, temperature and humidity sensors, consumption monitoring, smart systems)
  - AI systems
- sanitary facilities
  - water (cold water, hot water, internal networks, connection, tanks / pumping stations)
  - hot water preparation (central heating system, boiler, heat exchanger, solar panels)
  - domestic sewage (wastewater collection, connection column to the public network, separators)

- rainwater (collection, gutters and downspouts, drainage, controlled discharge, recycling)
- sanitary ware (toilet, sink, shower, bathtub, faucets, siphons, gutters)

- heating, ventilation, air conditioning (HVAC) systems

- heating (boilers, radiators, underfloor heating, convectors, etc.)
- ventilation (natural ventilation, mechanical ventilation, heat recovery ventilation, exhaust air)
- air conditioning (split/multisplit units, VRF/VRV central air conditioning systems, chillers, dehumidification/humidification)

- gas installation

- treats the route segment from the junction box to the gas consumers

- vertical systematization and exterior landscaping (establishing the level elevations of the land within the premises, directing rainwater runoff on the land, alleys)

- landscaping, historical gardens and parks (identification of original plant species, establishment of proposed ones, in a landscaping correlated with the monument, historical gardens and parks if applicable)

- construction site organization

- delimitation of the construction site, storage areas and functional annexes for the construction site
- accesses
- correlation of the construction site with the sequence of interventions
- provides security measures (SSM) and environmental protection

- artistic components (if applicable)

- mural painting on mineral support (mural paintings on plaster on vaults/walls, frescoes, mural tempera)
- mural painting on wooden support (mural painting on wooden support, murals, icons, painted furniture)
- wood restoration (decorative wood carving, decorative ceilings and panelling, integrated historical furniture)
- architectural stucco and decoration (lime and/or plaster stucco, decorative reliefs, profiles, frames, decorative capitals, applied plastic elements)
- stone (stone sculptures, carved architectural elements, bas-reliefs)
- ceramics (tiles, plates, decorations)
- stained glass and glass (stained glass, windows, glass brick, decorations)
- metal (artistic hardware, railings, grilles, decorative gates, ornamental elements made of iron, cast iron, bronze, brass)

- specialists for Foundation Studies:

- Surveyor (topographic survey, OCPI opinion, clarifies the situation of the property in the CF)

- Geotechnical specialist (develops the Geotechnical Study, geotechnical drilling, foundation excavations, soil sample analysis, drafting information and recommendations that will later be interpreted by structural engineers)
- Construction biology specialist (develops the Biological Study, identifies wood/stone species, plasters, identifies elements affected by biological factors, identifies biodegradation agents: bacteria, fungi, algae, lichens, plants, insects, birds, animals, proposes intervention methods and curative and preventive treatments)
- Technical Expert – Structures (develops the structural Technical Expertise of the construction, integrates the results of the Geotechnical Study, the Biological Study, but also of the Historical-Architectural Study, analyses the building from a static point of view, identifies deficient elements and establishes the directions of structural intervention on the monument)
- Dendrochronology specialist (develops the Dendrochronological Study, takes samples from the wooden elements, analyses the annual growth rings of the wood , determines the year or even the season in which the tree from which the wood comes was cut , establishes the construction stages of the construction)
- History/art history specialist (develops the Historical Study or Art History Study for the studied objective, which aims at the scientific analysis of the evolution of the monument over time, and establishes the main constructive stages, the values of the monument)
- Architect specialist for the development of Historical-Architectural Studies (develops the Historical-Architectural Study in which he integrates the results of the Dendrochronological Study, the Historical Study, and the Archaeological Study of substantiation, and establishes the directions of intervention on the monument)
- Archaeologist (develops the Archaeological Foundation Study, in which he establishes what type of research is necessary, defines sensitive areas and formulates conditions for the project)

- specifications are included in each specialized project (technical specifications relating to the quality, technical and performance level, operational safety, dimensions, as well as quality assurance systems, terminology, symbols, tests and test methods, packaging, labelling, marking, etc.)

- lists of quantities and evaluation of works are included in each specialized project

- the general estimate is prepared by the project manager who gathers all the estimates developed within the specialized projects, to which he adds related works or expenses

- the construction operation manual that must be developed for each specialty.

Technical assistance during the restoration works: the design team's activity does not end once the project is handed over to the beneficiary. During the execution of the works, the design team ensures technical assistance during the execution period, during which it verifies the way in which the project is

implemented, adapts the project proposals to the "various and unforeseen" situations that arise on the site by issuing Site Provisions that must be approved and adopted by the owner and the contractor, and submitted to the verification by the verifier who handled the respective project.

It is worth noting that during the execution of the restoration works, the owner must be represented on the site by the Site Manager, who must be a person authorized by the State Construction Inspectorate ISC and the Ministry of Culture MC.

Thus, the Site Manager (and not the Designer) is the one who:

- inspects the construction site daily,
- coordinates the executor,
- certifies work situations,
- is responsible for the organization of the construction site,
- oversees the development of the Construction Book.

AS BUILT project (or post-execution plan) is the final technical documentation of a construction, it presents the real state of the objective after the completion of the works, integrating all the Site Provisions developed during the works. It includes the drawn part and the written part, up-to-date, for each specialty.

The ISU authorization is issued by the ISU Emergency Situations Inspectorate and is obtained by the beneficiary, after the execution of the works , based on: the ISU approved project, the field verification and the AS BUILT documentation.

The operating authorization is issued by the local City Hall and is obtained after the completion of the works, after the Final Reception, and after obtaining the specific approvals: Inspectorate for Emergency Situations ISU, Public Health Directorate DSP, Sanitary Veterinary and Food Safety Directorate DSVSA, Environmental Protection Agency APM

The technical construction book is the documentation drawn up upon completion of the works. The owner is responsible for its completion, but he is not the only one who contributes, but is assisted primarily by the Site Manager, with the support of the designer and the contractor.

An integral part of the Technical Book of the construction is the Operation Manual . It is a neglected (or even ignored) document but could be extremely useful if it is developed conscientiously, because it provides clear indications for the vulnerable aspects of the construction that the owner must monitor over time, the checks that must be carried out periodically, the mandatory and periodic maintenance work, the way in which cleaning is done (permitted cleaning products). The operation manual is developed by the designer, for each specialty, but it is worth remembering that no designer includes this chapter in his service offer if it is not suggested to him by the owner, through the Design Theme.

4.2.2. Stages of a project

4.2.2.a DALI phase Intervention Works Approval Documentation - includes all the Substantiation Studies, and projects by specialties in the DALI phase, which means projects advanced enough to be able to outline an investment value as close as possible to reality. Some financing lines require Detailed Estimates according to Government Decision HG 907/2015 regarding the stages of elaboration and the framework content of the technical-economic documentation related to the objectives/investment projects financed from public funds: https://legislatie.just.ro/public/detaliidocument/185166

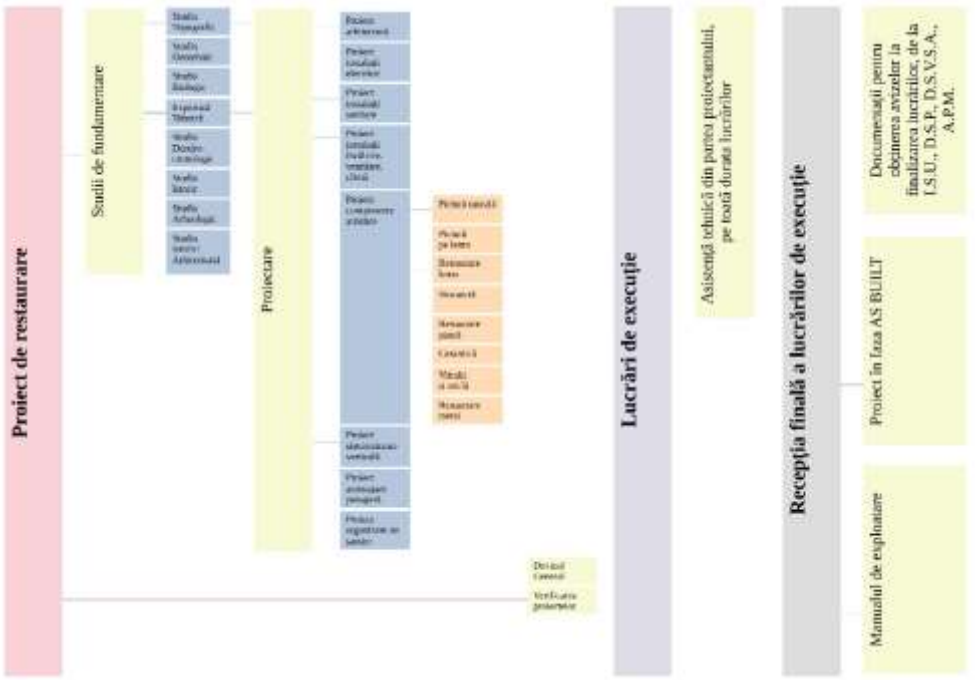


Fig.15 Diagram: the contribution of the design team in the restoration of a monument. Source: Laura Zaharia

Although it seems to be the simplest, fastest and cheapest stage, in reality it is the most complex, longest and most expensive stage.

4.2.2.b DTAC phase Technical Documentation for obtaining the Building Permit - is the documentation within the works authorization procedure. Since it is almost identical to the DALI phase, it is advisable that these two stages be drawn up simultaneously. The difference lies in the Specific Memorandum for the DALI phase, which has a sophisticated structure, encompasses all project memoranda by specialties, presents a second project variant (sketches, text) which proves that the proposed variant was chosen with discernment, and makes an economic-

financial analysis and justification of the investment efficiency (depending on the financing line, this must be drawn up by a finance specialist).

4.2.2.c DTOE phase Technical Documentation for the Organization of Execution Works refers to the organization of the construction site, is prepared together with DTAC and is part of the documentation on the basis of which the Construction Permit is obtained.

4.2.2.d PT + DE phase Technical Project + Execution Details – is the detailed documentation, for all specialties, based on which the actual works are executed.

The stages in which the designer is involved, after the project is handed over in the PT+DE phase and until the Final Reception of the works:

- technical assistance
- documentation for obtaining approvals upon completion of the works, from ISU, DSP, DSVSA, APM
- project in AS BUILT phase
- Operating manual

As a guide, the breakdown of design fees could be:

- phase DALI + DTAC + DTOE = 75%
- PT + DE phase = 25%
- Technical assistance is contracted separately from the other design stages; the fee cannot be estimated as a percentage, but depends on the frequency with which the owner or contractor requires the designer's presence on site.
- the documentation for obtaining approvals upon completion of the works, from ISU, DSP, DSVSA, APM (presented above), is contracted separately from the other design stages; they cannot be estimated in percentage.
- the AS BUILT phase is contracted separately from the other design stages; the fee can be estimated at 10% of the project value across all phases.
- Operating manual it is contracted separately from the other design stages; it cannot be estimated as a percentage.

4.2.3. Contents of historical monument restoration projects

Here is the content of the projects within a complex restoration project of a historical monument:

Substantiation studies:

- Topographical Survey
- Geotechnical Study
- Biological Study
- Structural Technical Expertise
- Dendrochronological Study
- Historical Study/Art History Study (can be done within the Historical-Architectural Study)
- Archaeological Foundation Study
- Historical-Architectural Study

Architectural project
Structure project
Electrical installation project
Plumbing project
Heating, ventilation, air conditioning project
Gas installation project
Artistic component project

- mural on the wall
- mural on wood
- stucco and architectural decoration
- stone
- ceramic / mosaic / glass
- stained glass windows
- metal
- wood

Vertical systematization and exterior design project
Dendrological landscaping project
Construction site organization project
Financial analysis (The Bills of Quantities are included in each project, but at the end, the Project Manager correlates all Estimates by objects and specialties and finalizes the General Estimate)
Project verification

Until the restoration work is completed, the designer is involved in the following stages:

- technical assistance
- documentation for obtaining approvals upon completion of the works, from ISU, DSP, DSVSA, APM
- project in AS BUILT phase
- Operating manual

4.2.4. Types of intervention works on a historical monument

- complex restoration
- change of cover
- emergency interventions

In the previous sub-chapters, we went through the design stages and teams that are required within the complex restoration project .

In the case of roof replacements , the procedure is similar and the project volume can only be reduced on a case-by-case basis, at the decision of the project manager. Most of the time, the initially estimated budget for roof replacement doubles due to works that occur along the way in the absence of an authorized project. It is important that the Substantiation Studies are done in full, because

although a roof replacement work does not seem to be too complicated, in reality some surprises may arise that must be resolved at the same time as the roof replacement:

- the structural elements of the roof may be damaged, requiring the intervention of carpenters to reinforce the damaged elements,
- the structural elements of the roof truss may be affected by biological attacks that require treatment and, respectively, the consolidation of degraded elements,
- the lightning rod no longer meets the requirements of current regulations and needs to be replaced with a new lightning rod,
- the foundation studies highlight other problems with the monument, and thus the owner is informed and can start looking for ways to correct and solve the problems.

Emergency interventions are often invoked by owners who want to shorten authorization procedures and reduce design costs.

Indeed, Law No. 422/2001 allows emergency interventions to "safeguard historical monuments, without waiting for the full completion of the usual procedures". However, this procedure can only be applied in situations of imminent risk of collapse or serious damage (fire, earthquake, storm, flood), and the works are minimal, and have the strict aim of stopping degradation: supports, scaffolding, temporary protections (canopies, tarpaulins), evacuation of unstable elements that endanger people's lives, or temporary, reversible reinforcements.

Authorization is done quickly, based on a report and a notification from the County Directorate for Culture. The execution works can start immediately, but under the supervision of an architect or a certified MC structural engineer, and a certified MC site manager. However, the owner is obliged, until the completion of the safety works, to hand over to the local authorities the complete documentation for the emergency intervention works and to start the normal authorization procedure for the complex restoration.

4.3. Design theme

Let's go back a little to the moment when the owner of the monument decides that restoration work is necessary and initiates discussions with an architect.

For the meeting with the architect, the owner should prepare with the Design Theme, in which he should list his requirements, both those related to construction (functions, appearance, certain aspects that he is particularly interested in) and those related to the content of the project (related to those presented in chapter 5.2).

In the case of investments with private funds, the Design Theme is usually transmitted verbally by the owner, and is noted by the architect during the first meeting.

In the case of investments with public funds, the Design Theme must be prepared by the "Beneficiary/Designer/Consultant", approved by the Beneficiary,

and follow the framework content proposed by Government Decision HG 907/2015 regarding the stages of elaboration and the framework content of the technical-economic documentation related to the objectives/investment projects financed from public funds, Annex 2: https://legislatie.just.ro/public/detaliidocument/185166

Along with the Design Theme, the beneficiary must also prepare the Conceptual Note , according to Annex 1 of the same GD 907/2015, in which to present preliminary data and cost estimates (usually with the help of the designer or consultant) and to justify the necessity and opportunity of an investment financed from public funds.

4.4. Financing restoration works

There are situations in which the owner has the ability to support the restoration work of a monument from his own funds, but there are also many situations in which the funds are lacking, but the monument is crying.

In this case, the owner will seek sources of financing from public funds.

We saw above that in these situations, in the case of the Design Theme and the Conceptual Note, how among the people who can develop these documents, an important pawn appears in the case of public funding (and not only): the Consultant.

Here are some of his roles:

- searches for the available financing source, or advises the owner on the financing lines that are about to appear;

- prepares the documentation requested in the chosen financing line. Takes over the technical project prepared by the design team and adapts it to the financier's requirements;

- assists the owner in the necessary steps to award the contract for the execution of the restoration works;

- monitors the implementation of the project from the financier's perspective: monitors compliance with deadlines, compliance with the technical project, settlements of eligible works, etc.;

- is the guarantor of procedural fairness in relation to the legislation and the conditions of the financier.

4.4.1. The danger of restoration works financed from public funds

The advantage of obtaining funding that fully covers restoration work is overshadowed by a major danger: restoration risks becoming an exercise in bureaucratic compliance, not an act of heritage conservation.

Administrative procedures tend to dominate restoration work , because decisions are made for “compliance” and “eligibility”, not for cultural value and authenticity:

- there is a tendency towards standardization of works, both through the inclusion in the estimate norms that the designer is obliged to make by the provisions of GD 907/2015, and through the contractor's own technologies, which often opt for standardized solutions;

- public procurement has a destructive criterion in the case of monuments: the "lowest price" which is chosen in many cases because it is the easiest to argue, while the "quality-price" criterion requires more arguments, so that other factors receive a significant weight: relevant experience, team composition (certified specialists); presentation of the intervention methodology, management of heritage risks.

- deadlines are always too short and work tends to be done quickly and indiscriminately, just so as not to "lose funding".

- the restoration works aim more at aesthetic rehabilitation, without emphasizing the preservation of authenticity.

- the real expertise of specialists is subordinated to the financial or legal arguments of consultants or lawyers.

- it is difficult to co-opt local craftsmen, who master traditional working techniques but do not have specific certifications or legal forms of work.

- the owner's involvement is diluted by the rigidity of the rules imposed by the financier and the legal procedures of public procurement.

4.4.2. Restoration works from private funds

Typically, restoration work from private funds is carried out in stages, and the work extends over several years.

It is possible that during the restoration work, the owner may find a financing line to cover a stage of the designed work, but in this case the dangers outlined above are minimal.

The long duration allows all foundation studies and all project proposals to be done in a timely manner, with the decantation of information and the correlation of all decisions into a unified and mature project.

Similarly, during the execution works, the chosen materials are carefully selected in order to respect authenticity, and the possibility of manufacturing some of them in small local craft workshops, or purchasing them from decommissioned buildings (tiles, bricks). The working techniques can be oriented towards traditional techniques, in the hands of small local craftsmen, who best preserve the tradition of the respective work.

An example of a resounding project, which lasted almost 10 years, is the “House of Religious Freedom - Rehabilitation and re-functionalization of the former residence of the Unitarian bishop” in Cluj Napoca, led by arch. Xenia Furu. The design phase lasted 4 years (2013-2017) and the execution works another 5 years (2018-2022). Arch. Xenia Furu also provided continuous and persevering

technical assistance throughout the works. The quality of the restoration works was recognized by 2 important national and international awards:

- 2018 BNA Award - Restoration Section. Consolidation
- 2022 OUR EUROPE Award

It is worth noting that privately funded restoration works have attributes that can lead to exceptional achievements, which have as their main objectives the preservation of the authenticity of the monument and which aim at the honesty of the restoration interventions. There is a major, necessary and sufficient condition: the full involvement of the owner, both in the design and execution stages. Together with the design team, the owner must reach a high level of understanding of the monument and, respectively, of the interventions proposed for the restoration, in order to be able to manage the execution stage as well as possible. And last but not least, the owner needs a high degree of stubbornness in order to be able to ensure the continuity of financing and to successfully overcome all the crises and blockages that most often occur during the execution of the works, without lowering the bar of quality.

4.5. Execution of restoration works

The execution of certification works is carried out only by teams consisting of specialists or experts certified by MC.

The works must be monitored by a site supervisor, certified MC, who is the legal representative of the owner on the site and has the role of monitoring and protecting his interests in order to implement the restoration project as honestly as possible: verifying compliance with the project, authorization and legislation.

The actual work is done by craftsmen who have acquired over time, most often "from father to son", the skill of handling tools and working with the material. Old craftsmen are invaluable for the immense amount of practical knowledge gained from contact with all the construction site issues they have had to deal with. Unfortunately, the legislation does not provide for the certification of craftsmen and implicitly the training of craftsmen in the field of monument restoration.

Usually, the craftsman is employed (through an employment contract or service contract) by the execution company, and will carry out his activity "under the direction" of an architect, structural engineer or restorer, certified MC, who is often younger and less skilled in the secrets of the craft than the craftsman.

4.6. Maintenance

According to DEX, maintenance is "The totality of maintenance and repair operations of a technical system."

It is the smartest way to take care of a historical monument.

It means small, periodic and consistent interventions, which can replace massive and expensive restoration works for an indefinite period. Regular checks

and minimal interventions, made as soon as a deficiency has been noticed, prolong the life of the monument, preserving its authentic substance.

With the help of persistent maintenance, the slow degradation of buildings is prevented, emergency interventions and losses of authenticity are avoided, and the frequency of massive, onerous, and risky restorations in terms of loss of authenticity is reduced.

Maintenance is a legal responsibility. According to Law no. 422/2001 on the protection of historical monuments, Art. 36 para. (1) : *"Owners of historical monuments have the obligation to maintain them and keep them in good condition."*

The law provides for fines for failure to maintain the monument, leaving it in a state of decay, and failing to fulfil guarding and protection obligations.

In these cases, authorities may impose mandatory intervention measures (minimum repairs, making safe) and deadlines for remediation.

If the owner does not act, the authorities can intervene ex officio, through which they can carry out emergency works and then recover their costs later from the owner (including through forced execution).

Although the legal framework exists, sanctions are rare and applied late, so passive abandonment becomes one of the most harmful forms of heritage destruction.

4.6.1. Case study

An example of good practice is the Evangelical Parish of Brașov, which applies the German principles of professional building management: "Hausverwaltung". It is true that the example is one of excellence, and there are not many monuments to which it can be applied, but it is worth remembering because many lessons can be extracted from here.

The Evangelical Parish of Brașov owns the Black Church of Brașov, which is one of the most representative monuments of Gothic architecture in Romania, dating back to the 14th-15th centuries, partially damaged in the fire of 1689 when its walls turned black and it received its current name.

In addition to the Black Church, the Evangelical Parish of Brașov also owns other historical buildings in Brașov, most of which are rented to the Brașov County Council: the old building of the Obstetrics and Gynecology Hospital "IA Zbârcea" ("maternity"), the Brașov Art Museum, the Brașov Ethnography Museum, the General Directorate of Social Assistance and Child Protection (DGASPC), Kindergarten no. 37, the "Johannes Honterus" Theoretical High School. A smaller part is rented privately for the provision of services or commerce: the Humanitas Bookstore, the VCH9 Inspiratio Cafe in the *Johannes Honterus Court complex* , or private apartments or offices. So it is a rich parish.

But all these properties also mean sustained work to take care of them, which is the subject of this "Hausverwaltung" , which involves:

- a heritage management department/service,

- own technical and administrative staff,
- constant collaborations with architects, engineers and restorers .

All rental income is dedicated to supporting religious activity in the church and maintenance work on all properties. The goal is to catch any deficiencies at an early stage, so that they do not lead to costly major restorations.

In addition to managing rents and being involved in all administrative matters related to the Parish's properties, the "Hausverwaltung" has a dominant role in monitoring the buildings:

- periodic inspections
- - checking the state of the roof (roofing, gutters, ridges, lightning rod, decorative elements),
- - control of water leaks and identification of deficiencies (infiltration, cracks, degradation),
- - checking the joinery,
- - facade maintenance,
- - punctual treatment of degradations,
- annual planning of small repairs,
- intervention log (what, when, where),
- the principle of "repair €1,000 now, so you don't pay €100,000 in 10 years" .

Regarding tenants, the Parish does not rent "blindly", but imposes some strict rules within the contracts, which include:

- a maintenance flasher,
- restrictions on changes,
- carpenters don't change,
- no walls are broken,
- no aggressive installations are introduced,
- No advertisements are placed arbitrarily.
- prohibitions on unauthorized interventions,
- any arrangement must be approved by the Parish and must be coordinated by specialists.

4.7. Obligation to use

The obligation to use the historical monument is a mandatory document, which is part of the Technical Book of the construction and must be registered in the Land Book by the owner.

The role of the Obligation of Use is to specify the manner of use and maintenance of a historical monument.

The obligation of use is drawn up by the county department for culture, only after the on-site investigation of the building. It includes the form of the Obligation regarding the use of the historical monument, the Inventory of the historical monument and the Report of the general state of conservation of the historical

monument (the framework content for these 3 documents is provided in the "METHODOLOGY of June 18, 2003 for drawing up the Obligation regarding the use of the historical monument": https://legislatie.just.ro/Public/DetaliiDocument/44618)

The obligation of use replaces the technical documentation for the use of the real estate asset (Operation Manual) if it does not exist.

CHAPTER 5. PROBLEMS SPECIFIC TO WOOD HERITAGE. BIODEGRADATION

Biodegradation or "Biological attacks" defines a process of decomposition of an organic compound, in our case wood.

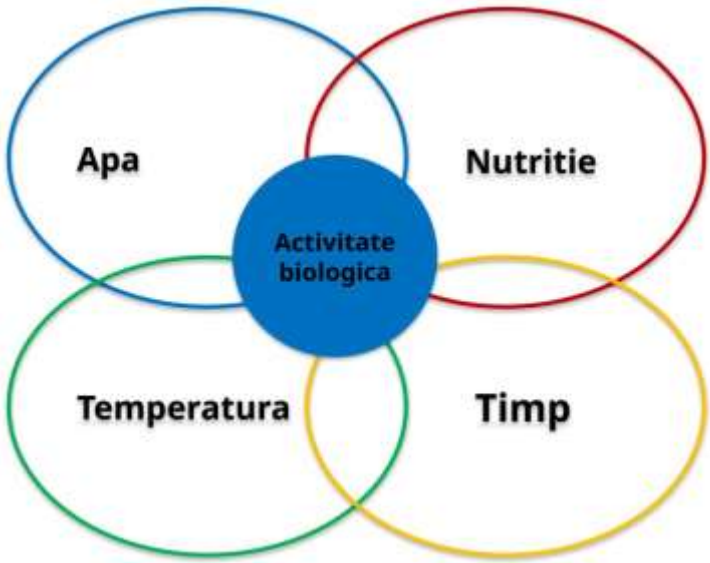


Fig.16 Logic diagram for the causes of biological attacks/ Concept presented by Dr. Johan Mattsson, MYCOTEAM: www.mycoteam.no , within the "International Course on Wood Conservation Technology" organized in Norway, by Riksantikvaren, NTNU and ICCROM

The variety of biological attacks is great:
- fungi (mushrooms);
- xylophagous insects;
- colonies of algae, mosses, lichens;
- birds;
- animals.

Conditions under which biological attacks occur:

- WATER: humidity greater than 20% or Relative Humidity greater than 85% (the percentage ratio between the actual amount of water vapor in the air and the maximum amount of vapor that the air can contain at the same temperature).

Water is the main enemy of wooden structures. Excess moisture favors the occurrence of biological attacks. Unventilated spaces enhance the occurrence and maintenance of biological attacks.

- FOOD: Organic matter, mainly cellulose.
- TEMPERATURE: Normally, from +4-5°C to 35-40°C. On rare occasions, from -10°C to +75°C!
- TIME: Development can begin after a few days and can continue as long as there are favorable conditions for activity.

5.1. Fungi (mushrooms)

According to the studies of Dr. biologist Livia Bucșa, there are over 90 species of fungi in Romania, of which 60 were found only in open-air museums.

Fungal attacks are often noticed and reported too late, after the attack has set in and is producing effects in the form of rot, larval galleries, flight holes or loss of wood. The moment the above-ground body of the fungus (the fruiting body) is visible, it means that the underground part (the mycelium, formed by hyphae) is already well developed and the biodegradation process is set in.

Often the fungal attack settles on a colony of algae, moss, or lichen, which has previously created a humid microclimate, attractive to fungi.



Fig.17 Scheme of the activity of xylophage fungi. Concept presented by Dr. Johan Mattsson, MYCOTEAM: www.mycoteam.no , within the "International Course on Wood Conservation Technology" organized in Norway, by Riksantikvaren, NTNU and ICCROM

There are cases in which biological attacks can endanger human health: Stachybotris cartarum and Chaetomium globosum are part of the group of toxic

molds called "toxic indoor molds". They are specific to humid and poorly ventilated indoor environments, and are considered toxic because they can cause allergies and mycotoxicoses in humans and animals.

It is important to note that these fungi are dependent on a source of calcium, and drywall is a rich and easy source, especially if it is located in a space with high humidity and poor ventilation.

Schematically, the activity of xylophagous fungi is presented in Fig.17, where it is observed that from the installation of spores in the wood, in a microclimate with a favorable ratio of humidity and temperature, months or even a year may pass until the fruiting body (the above-ground body of the fungus) appears on the surface of the wood. During this time, the wood inside is degraded, sometimes even completely.

It is worth remembering that rots are the forms of degradation of wooden material, as a result of fungal attack. The fungi feed on the active substances in the wood, leaving the wood brittle, without structural resistance. Rots can be of several types (brown-prismatic, white-fibrous, soft, dry, etc.) but in wooden constructions we most often encounter brown-prismatic rot where the wood is strongly weakened, brown in colour, with prismatic cracks.

5.2. Wood-eating insects

Attacks by xylophagous insects are easier to notice because "digging" galleries means that wood material in the form of dust is removed from the hole, and remains around it or falls to the ground. And in the case of wooden structures where people live, the activity of the insects is also noticed by the noises they make:

- House tailor (*Hylotrupes bajulus): rhythmic grinding,* fine, repeated crackling sounds that are heard especially at night , in silence;

- *Death's clock (Xestobium rufovillosum)* : rhythmic beats, produced by the adult, as a mating ritual, are heard at night *(it is especially active in structures already affected by fungi, so its appearance truly signals a serious danger);*

- *Large woodworms (Anobium punctatum): very fine shreds,* sometimes perceived as a "rustling", audible only in complete silence;

- Furniture mites *(Lyctus spp.):* a fine, barely perceptible mite, found especially in hardwoods (oak, ash) in floors, furniture, finishes.

The combined attack of fungi and xylophagous insects is even more dangerous because it quickly leads to the loss of mechanical resistance of the wood, through the combined effect of rot and larval galleries.

The activity of xylophagous insects can be identified by listening, observation and detailed analysis: listening to the sounds produced by the insects' activity, observing in bright light, looking for traces of wood dust around the holes or on the ground. An advanced search also identifies the fragility of the wood in different

stages of degradation: from the incipient phase, to the advanced phase, with total damage.

The activity diagram of xylophagous insects can be seen in Fig. 18, where it is observed that the duration of an insect's activity cycle inside the wood can be 2-7 years.



Fig.18 Life cycle of xylophagous insects. Concept presented by Dr. Johan Mattsson, MYCOTEAM: www.mycoteam.no , within the "International Course on Wood Conservation Technology" organized in Norway, by Riksantikvaren, NTNU and ICCROM

It is not only xylophagous insects that can cause the degradation of wooden structures.

There are situations in which insects that do not consume the nutrients in wood, mainly ants, make their nests inside or under the construction, and create trails in search of food. Or the case of carpenter ants (large ants, up to 13mm) that use wood as a host for nests and create galleries in the annual rings of soft wood, in spring.

We often encounter on well-sunny wooden elements, some colonies of brightly coloured insects, popularly called "the lord's cow". It is a gregarious species "Pyrrhocoris apterus" that feeds on seeds and leaves and has no effect on the wood.

5.3. Colonies of algae, mosses, lichens

Colonies of algae, moss, lichen do not in themselves constitute a danger to wooden structures, but their presence indicates high humidity of the wooden element on which they are installed, a humidity that they maintain and amplify, thus favoring the appearance of fungi and xylophagous insects.

5.4. Birds

Birds can affect historic wooden buildings both externally and internally.

Outside, woodpeckers are most aggressive, especially in monuments that are not in continuous use. They assimilate wooden structures to tree trunks, looking for food sources (insects, larvae) in the high spires of spires, or in the spaces between the beams of the wooden churches. The "forest doctor" exercises his duties not only in forests, but in the case of wooden monuments the damage is not negligible.

Also outside, bird nests (pigeons, sparrows, starlings, crows, magpies) can obstruct the natural ventilation of the building, divert rainwater runoff, or, more seriously, generate a warm and humid microclimate in which fungi and xylophagous insects can proliferate.

Inside, birds nesting in the spires or in the attics naturally produce droppings, which accumulate on floors, vaults or wooden structural elements. The indirect consequences are an increase in the humidity of the wood and a favoring of biological attacks.

5.5. Animals

Small mammals (mice, rats, shrews, weasels, squirrels and bats) that can enter wooden buildings, mainly in the attic, also generate unpleasant effects:

- they grind the wooden elements to make room,
- they produce excrement that leads to biological attacks, because they accumulate on floors, vaults or wooden structural elements, causing the wood to increase in humidity and, respectively, favoring biological attacks.

It is worth noting that all 32 species of bats in Romania are protected by law, being included in the annexes of the Habitats Directive, which gives them the status of strictly protected or protected species, due to their vital ecological role and due to the decline of populations. If it is necessary to remove a colony from the roof of a historical monument, it is necessary to build a new shelter for the bat colony ((Ghid, 2016, 40)

5.6. Biodegradation therapeutics

There are 2 directions of action:

- elimination of causes
- damage treatment

5.6.1. Elimination of causes

In the case of fungi and xylophagous insects, the main cause that creates the optimal microclimate for their proliferation is humidity .

Sources of moisture come from:

- precipitation;

- rising humidity;
- condensation;
- the contribution of birds and small animals to the occurrence of biological attacks.

5.6.1.a Precipitation

Rainwater entering through any leak in the roof . Any hole, gap or detachment of the covering elements allows water to enter the interior, and the longer the time that water soaks into the wooden structural elements potentially increases the risk of biological attacks. In cases where there are gutters and downspouts, these should have helped to remove water from the building, but over time they deform and lose their saving role, becoming a formidable enemy, leading water towards the building.

Maintenance work is the lifesaver, both for roofs and for gutters and downspouts, where they exist. Done in advance, with small and inexpensive interventions, maintenance work can avoid large and expensive works.

In the case of wooden roofs, their complete replacement is necessary, in a cycle of 15-25 years. Continuous observation of the condition of the wooden roof is necessary, in order to establish the date on which the work authorization procedure should begin, and in parallel to find sources of financing.

In vernacular architecture we do not encounter gutters and downspouts, we sometimes encounter a fragment of a gutter made of wood, mounted above the access to the porch. In these cases where the water that drains from the roof falls directly onto the ground, much greater attention must be paid to the way in which it is collected and directed, so that it is removed from the construction as quickly as possible.

The removal of water from the ground by landscaping the land around the building is detailed in the next paragraph. But the "taking over" of water when it reaches the ground is a delicate issue that must be taken into account, especially if the eaves of the building are small. Upon contact with the ground, the drops ricochet and splash the base of the building. The splashes can reach the base, but there are cases in which the base is so small that the splashes reach the wooden sole. The wood is washed by the splashes, discoloration and staining of the wooden surface occur, and during periods of heavy rain, due to continuous wetting, the spores of xylophagous fungi can settle and proliferate.

If the surface on which the splashes fall is hard, flat and smooth, the fine splashes are dispersed energetically, radially. Therefore, for the area where the drop of the eaves falls, the ground surface must be treated with rough, porous, soft materials, and the surface must have a sufficient slope so that the direction in which the splashes bounce off does not touch the construction. Surfaces with gravel or sand are recommended.

5.6.1.b Rising humidity

Rising humidity reaches wooden structures from the soil, through the phenomenon of capillarity, crossing the foundations and the base.

The most common cause is that of rainwater that flows onto the ground and stagnates around the buildings. It is very rare for the building to be located on a hilltop, from where the rainwater flows naturally onto the ground in all directions. Most of the time there is a counterslope that brings the water towards the building. Even if initially a system was designed to remove water from the building by properly conforming the ground or by protective sidewalks, over time the ground deforms and most of the time a reverse slope results that leads the water towards the foundations.

It is important to carefully study the conformation of the land and how the waters drain in the case of regular rains, floods and snowmelt. Small works can be done upstream to divert the waters (an open ditch or a bank, both grassed), and around the construction, land development works are necessary to remove the topsoil from the wooden bases to a minimum of 20cm, and to create a small slope so that the waters are removed from the construction.

A significant amount of water in the soil may also mean a failure in the existing water networks in the area, so checking them is advisable.

Another cause of moisture at the base of the building is the groundwater level in the ground, which can be so high that it comes into contact with the foundations.

It is possible that this situation did not exist at the time of construction, but rather arose over time due to subsidence of the soil beneath the construction, nearby construction works (buildings, roads, hydrotechnical works) or even climate change.

It is usually impossible to intervene to eliminate the causes of rising groundwater levels, so the recommended interventions are those of drains and, respectively, those of inserting horizontal waterproofing between the foundations and the wooden base.

The drains must be deep enough to drain the soil down to the bottom of the foundations, and they must have an outlet through which the collected water can be discharged. It is preferable that this discharge of the drained water be made into an emissary, as small as possible, in the immediate vicinity of the site. All logistical efforts must be made to resolve this situation naturally, because otherwise a centralized sewage system and pumps are needed to make the transfer. This increases the investment costs, but also the maintenance costs for the pumps and the taxes for the sewage system.

Inserting horizontal waterproofing between the plinth and the wooden base is an operation that, although it seems complicated, is much safer and easier to perform than in the case of brick buildings, where the work of injecting

waterproofing materials or cutting and inserting waterproofing sheets is very expensive and difficult to perform.

In the case of wooden buildings, it is necessary to lift the structure after it has been previously prepared for this operation through preventive consolidation. The lifting is not large in scope (a minimum of approx. 20cm) and allows for the installation of horizontal waterproofing between the base and the wooden base, as well as the consolidation of the foundations and base, and the replacement of degraded elements in the wooden base to be carried out comfortably during this time.

Another factor favoring rising damp is inadequate plastering or consolidating the base with concrete, cement-based plasters, stone veneers or ceramic tiles, which favor the rise of water through capillarity and the maintenance of a high level of humidity.

It is imperative to eliminate these wrong interventions. If the elevation is to be plastered, the works will be done with clay or lime plasters. If the base and foundations are to be consolidated, the first operation is to re-lay and re-weave the stone blocks correctly. If the consolidation measures need to be more complex, the decision belongs to the technical expert for structures and the structural design engineer, but the transfer of moisture from the soil to the wooden structures must also be taken into account, which is favored by concrete foundations or cement mortars for masonry.

5.6.1.c Condensation

Condensation occurs in buildings with continuous use, equipped with heating systems.

A relative air humidity of over 60–65%, exterior construction elements with low thermal insulation and implicitly high heat transfer, and the lack of natural ventilation, are ideal conditions for the appearance of condensation.

If we analyse traditional houses, we notice that although the thermal insulation of the construction elements is far from contemporary thermal insulation concepts, and although a fire was lit and cooking was done in the living room, condensation was not present.

The reason lies on the one hand in the "imperfections" of vernacular constructions, and on the other hand in the "perfection" of natural materials. The interior spaces were naturally ventilated by the lack of tightness of the envelope (carpentry) and by the characteristics of the natural materials used in the constructive elements, which allow the "walls to breathe". Along with wood, clay plasters have a great contribution in this regard, because they regulate the humidity in the room (absorb and eliminate moisture). The wood-clay relationship is ideal, the behavior of wood over time in intimate contact with clay is very good, both "breathe" at the same rate.

Additional thermal insulation : it is common for vernacular constructions to have owners wanting better thermal comfort, a more modern look or simply a display of the status of a modern and "well-off" family. Without a prior study, inadequate interventions are made to insulate interior walls with bitumen, asphalt cardboard, tiles, paneling, plasterboard, etc. in intimate contact with wood. These are materials that block the natural breathing of natural materials (wood and clay), once installed, the humidity cannot be released, so that the optimal microclimate for the occurrence of biological attacks is formed.

It is recommended to preserve the traditional layering of walls, floors and planks of wooden structures. If additional thermal insulation is required, great attention will be paid to the proposed materials and the way in which they are installed:

- the materials should be as natural as possible. It is important to remember the danger posed by drywall, which is an excellent source of food for certain types of xylophagous fungi. Drywall glued to a wooden wall blocks its breathability, generates the accumulation of moisture and becomes an invitation for biological attacks that proliferate on this support.

- the installation of thermal insulation materials must be done in such a way as to maintain a layer of air between them and the original wall, allowing the natural breathability of the wall to continue to function.

Modern joinery : for the same reasons, owners are replacing traditional joinery with new ones. The imperfections of the old joinery that ensured discreet but continuous ventilation are replaced by a "perfect" joinery, which seals the rooms and their ventilation is done occasionally, only when it is ventilated. All manufacturers of modern joinery insist on periodic ventilation of the rooms, but in everyday life this condition is not always possible (during periods when the houses are not inhabited), or is not always respected.

Modern carpentry manufacturers have also responded to this problem by proposing "passive ventilation" (somewhat similar to "traditional ventilation") by adapting the profiles of the joinery by integrating ventilation grilles. These can be self-regulating or manually operated, of course with additional costs, both in execution and during the period of use (in the case of self-regulating ones). If the owner wants a house with a high degree of energy efficiency, passive ventilation is not recommended and must be replaced by a centralized ventilation system with heat recovery.

5.6.1.d Contribution of birds and small animals to the occurrence of biological attacks

In the case of the contribution of birds and small animals to the occurrence of biological attacks, maintenance work is the saving grace. Observing the intentions of birds to build a nest and discouraging these intentions before the installation is made is ideal. The case of bats, as protected species, is more delicate because

once the colonies are installed, their elimination can only be done by offering an alternative, namely the construction of a new shelter.

To prevent birds and small mammals from entering, fine metal nets can be installed in areas where they can enter, usually on the eaves of houses and in the galleries of the towers of wooden churches.

5.6.2. Damage treatment

5.6.2.a Allopathic treatments. Prescriptions

Biological attacks within a construction are analysed and interpreted by a biologist specialist (certified by the Ministry of Culture in the case of classified historical monuments) within a Biological Study, which aims to:

- identification of wood species used in construction;
- determining the moisture content of the wood material;
- inspection of each wooden element within the construction, from the structure, to finishing elements and even furniture;
- identification and localization of biological attacks;
- identifying the causes of biological attacks;
- proposes curative treatments for bio-degraded wood;
- proposes preventive treatments for new wood;
- identifies areas where degradation is high and requires partial replacement of structural elements, which must be taken over in specialized studies and projects:

- for structural elements, the information will be taken over within the Structural Technical Expertise and respectively in the structural consolidation project,
- for the finishing elements, the information will be taken over within the Historical-Architectural Study and respectively in the restoration-architectural project,
- for the furniture elements, the information will be taken over within the Restoration Project - artistic components.

It is recommended that old and healthy wood not be treated with chemical solutions . The reasons are delicate but very careful with the integrity of the wood material , with environmental protection and with the minimally invasive intervention methodology:

- chemicals can penetrate old wood unevenly (often degraded or with altered cellular structure), leading to internal stresses, salt crystallization or changes in hygroscopicity;
- many chemical solutions can stain wood, change the natural colour of the historical patina, or leave shiny/sticky residues that compromise the authentic appearance of the monument;

- they induce risks to health and the environment due to the toxicity of chemical substances;

- chemically treated wood becomes hazardous waste, making future restoration or storage processes more difficult;

- the inefficiency of treatments on structural elements with large sections, where the treatment applied by brushing or spraying remains on the surface, leaving the interior vulnerable to xylophagous insects that are already present in depth;

- according to restoration principles, interventions must be, as far as possible, reversible.

Chemical treatments are often permanent and cannot be removed without destroying the surface layer of the wood.

It is recommended that treatments be applied, where possible, through the vacuum-pressure process, at a specialized station.

5.6.2.b Direct interventions. Surgical approach

Cases where fragments of wood material need to be removed and replaced with new wood material are taken over by the Technical Expert - Structures and the design team for the Technical Structural Consolidation Project.

These aspects are presented in detail in the chapter dedicated to issues specific to wood heritage – resistance and stability.

CHAPTER 6. ISSUES SPECIFIC TO WOOD HERITAGE, RESISTANCE AND STABILITY

Dr. Eng. Szabo Balint was the one who laid the technical and scientific foundations for the approach to historic wooden structures in Romania. His work mainly covered historic Baroque frames, but the principles of the approach can be successfully extended to all types of historic wooden structures.

His concept for the theory and practice of the rehabilitation of historical resistance structures comprises 2 fundamental stages, which must be approached in order:

- structural diagnostics : the science of identifying structural deficiencies and the causes that caused them. It goes through the phases of knowledge and description of resistance structures, as well as the analysis of factors that may play a role in their evolution (the history of the monument, the biology of constructions, geotechnics, architectural elements, installations, artistic components, etc.),

- structural therapeutics : aims to transform resistance structures to ensure and maintain at the optimal level the structural requirements necessary for the permanence of constructions over time.

6.1. Structural diagnostics

Structural diagnostics is the totality of the research phases of historical structures, which is based on the multitude of information collected and interpreted by an interdisciplinary team composed of architects, structural and installation engineers, geotechnicians, surveyors, archaeologists, art historians, specialists in the field of construction physics, restorers of wood, stone, glass, furniture, murals, and expert biologists.

Structural diagnostics is approached in four phases, often overlapping in time:

- revealing and presenting the resistance structure,
- inventory of structural deficiencies caused by physical structural wear:
  - modification of the geometry of structural or non-structural elements,
  - modification of the geometric characteristics of structural elements, subassemblies or assemblies,
  - modification of the mechanical characteristics of structural elements, subassemblies or assemblies,
  - moral wear and tear of the construction, new functions that bring overloads that the original structure cannot cope with,
  - alignment with the requirements of modern seismic safety regulations (there are too few historical resistance structures that meet current regulations)
- testing the load-bearing capacity and highlighting the necessary structural interventions,
- identifying the causes of structural shortcomings:
  - initial causes: birth defects, erroneous conception, transformations over time, undersized structural elements,
  - causes arising during the execution works: execution errors, undersizing, unfavourable architectural details, lack of appropriate waterproofing measures, incorrect assessment of the quality of the foundation soil, inadequate construction materials (porous stone, materials incompatible with the historical ones – cement, concrete)
  - causes that appear over time, during the operation of the construction: aging of materials, uneven settlements, lack of periodic maintenance work, improper functions, negligent current maintenance, overloading of the structural system) (Szabo, 1993, 22-80)

6.2. Structural therapeutics

Structural therapeutics is the second, interventional part (design, execution and exploitation) of the rehabilitation process of historical resistance structures. Similar to structural diagnosis, therapeutics involves a complex activity, in which one intervenes on the structural load-bearing capacity, as well as on the causes that caused the structural shortcomings:

- eliminating the causes of structural deficiencies, is the chapter of maximum virtuosity of the Structural Technical Expertise proven by the synthesis capacity and experience in the field, especially because the direction of approach must be established in accordance with all the components of the building (history, architecture, installations, function, financial possibilities, etc.)

- where historically or architecturally valuable elements cannot be eliminated even though they cause damage to the structural system, the technical expert will take these into account when formulating intervention directions,

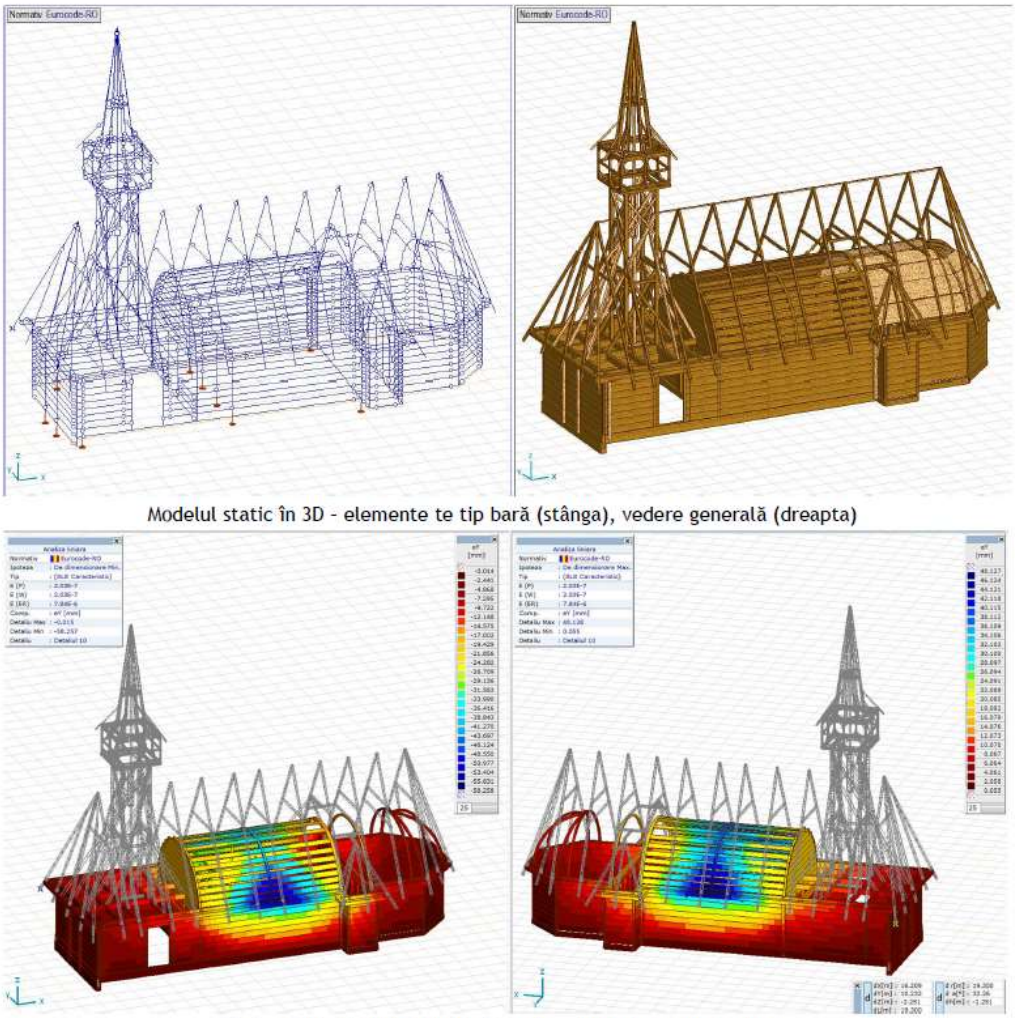


Fig. 19 Testing the load-bearing capacity: computational evaluation of the construction, using a numerical procedure based on the finite element method, at the wooden church in Breb, Maramureș. Source: Consolide M, Dr. Eng. Benke István, Dr. Eng. Dorottya Makay, Eng. Ábel Sebestyen

- raising the structural load-bearing capacity to the desired performance requirements:

- while preserving the initial structural design: parts of the resistance structure are reinforced or replaced, preserving, or not, the material from which they are made, without the unloading mode of the entire structure undergoing changes,
- with the modification of the initial conception of the structure: necessary whenever the initial conception is wrong, or when new functions require this.

- monitoring the compatibility between the existing structure and the restoration and consolidation proposals:

- material compatibility which involves the use of materials with physical and chemical properties similar to the existing ones, both from a structural point of view and from that of construction physics (thermal, hydrological or acoustic comfort)
- structural compatibility which requires measures that take into account the real behavior of the structural assembly,
- technological compatibility which involves the use of traditional technologies (the use of traditional tools and technologies,
- Compatibility in operation means on the one hand choosing technical solutions that facilitate maintenance activities, and on the other hand prescribing the optimal way to carry out maintenance work.

Structural interventions are better the less they stand out . The structural engineer's concerns, to ensure the performance requirements of the durable resistance structure, must materialize through minimal, strictly justified interventions.

Authentic historical messages, transmissible also through resistance structures, presuppose piety and consideration on the part of the specialists who compete in carrying out the interventions. The recipients of these beautiful feelings are the conceptions of the structural ensemble, or the details of the composition as well as the structural materials, respectively the traditional technologies. In this sense, the concern of the structural engineer towards the mural painting, respectively of the architects, or of the art historians towards the aesthetics of the historical structural conception is equally natural. (Szabo, 1993, 81-110).

6.3. Principles for the Conservation of Historic Wooden Structures, adopted by the International Timber Committee of ICOMOS, in Datong, China, in June 1998

This document defines the universal principles of intervention for the protection and preservation of historic wooden structures with due respect for their cultural values:

- reversibility:

- any intervention must be reversible, if technically possible; or

- at least not to prejudice or hinder future conservation work whenever this may become necessary; and
- not to prevent the possibility of later access to the evidence incorporated into the structure.

- minimum intervention: it is an ideal. In certain, well-justified circumstances, minimum intervention may mean complete or partial disassembly and subsequent reassembly to allow for the repair of wooden structures.

- integrated approach : the historic structure should be considered as a whole: all materials (including structural elements, non-structural elements, waterproofing elements, finishes, joinery, installations, etc.) should receive equal attention. In principle, as much of the existing material as possible should be preserved. If it is necessary to renew or replace surface finishes, the original materials, techniques and textures should be duplicated as much as possible.

- highlighting the historical evolution: the aim of restoration is to preserve the historic structure and its load-bearing function, and to reveal its cultural values by improving the legibility of its historical evolution, its previous state and its original design within the limits of the existing historical material evidence, as indicated in Articles 9-13 of the Venice Charter. Removed elements and other components of the historic structure should be catalogued, and characteristic samples should be kept in permanent storage as part of the documentation.

- in the repair of a historic structure, replacement timber may be used with due regard for the historic and aesthetic values. New members or parts of members should be manufactured from the same species of wood, with the same classification or, where appropriate, a better classification, as the members to be replaced. Where possible, this should also include similar natural characteristics. The moisture content and other physical characteristics of the replacement timber should be compatible with the existing structure. The craftsmanship and technology of construction, including the use of finishing tools or machinery, should, where possible, correspond to those originally used. Nails and other secondary materials should, where appropriate, reproduce the originals. If part of a member is replaced, traditional joinery joints should, where appropriate and compatible with structural requirements, be used to join the new part to the existing part.

- the new elements or parts of elements shall be easily distinguishable from the existing ones. Copying the natural deterioration or deformation of the replaced elements or parts is not desirable. Appropriate traditional methods or well-tested modern methods may be used to match the colour of the old to that of the new with due care being taken not to damage or degrade the surface of the wooden element.

- new elements or parts of elements must be discreetly marked, by incisions, by marks burned into the wood or by other methods, so that they can be identified later.

CHAPTER 7. PROBLEMS SPECIFIC TO WOOD HERITAGE. FIRE PROTECTION

Wooden structures are particularly vulnerable to fire. In general, low-density species ignite at lower temperatures than high-density ones. Beams with large sections withstand more due to the layer of carbon formed during combustion that helps protect the unburned wood underneath, and the penetration of fire into the element is delayed. For example, pine timber with a thickness of sixteen to eighteen centimetres that has caught fire is completely charred in about 5-6 hours, while oak timber carbonizes more slowly. In fire engineering, the carbonization rate for pine is used : ~0.6 – 0.8 mm/min and for oak: ~0.4 – 0.6 mm/min.

Fire retardant paints do not have a tradition in historic wooden structures and should, if possible, be avoided.



Fig. 20 Wooden church in Topla – Banat Village Museum, Timișoara County. Cause: short circuit in the electrical installation. 2025. Source: "Adevărul" newspaper from 26.03.2023. Available at: The wooden church in Topla, almost 300 years old, was reduced to ashes following a fire | adevarul.ro

Here is a list of 5 churches, classified as historical monuments, that have burned in the last 10 years, showing how serious this fire threat is and how vulnerable wooden structures are if not well cared for and protected:

-Wooden church in Povergina, Timiș County. Cause: open fire in open spaces. 2015

-Wooden church in Mărăşti, Bacău County. Cause: open fire in open spaces. 2022

-Wooden church in Vidra, Arad County. Cause: open fire in open spaces. 2022

-The wooden church in Stoileşti, Vâlcea County. Cause: short circuit in the electrical installation. 2023

-The wooden church in *Topla* – Banat Village Museum, Timisoara County. Cause: short circuit in the electrical installation. 2025

After the fire that took place in 2025, in the Banat Village Museum, at the wooden church in *Topla* , the Wooden Churches Association organized a round table "Wooden Heritage Burned by Fire - together we can find solutions?" which took place on April 10, 2025, hosted by the Banat Village Museum in Timișoara. The main causes of fires in wooden heritage are identified:

- open fire in open spaces: "cleaning" vegetation by burning,
- non-compliant electrical installations: short circuit in the electrical installation,
- rarer causes: electrical discharges, candles or other fire sources left unattended, non-compliant candlelight, stoves, graves too close to the wooden church, etc.

To avoid such tragedies in the future, the roundtable participants highlighted the need for a guide for the fire protection of wooden monuments in Romania, which would explicitly include the elimination of these common causes of fires, through the use and verification of electrical installations and equipment, and measures to raise awareness among the population regarding vegetation fires, which are otherwise prohibited by law.

Internationally, the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM) together with the Canadian Conservation Institute (similar to the National Heritage Institute) have created a guide for managing risks related to cultural heritage, which also included the risks of fire.

Among the 37 risks identified for the loss of heritage assets, fire ranks first. The magnitude of the risk was assessed by combining 3 factors:

- event frequency or rate of occurrence,
- the extent of the loss of components of a monument: an object of a collection, an element of a historic building (e.g. a facade, the decorated interior of a particular room, the roof, a staircase), a part or a particular feature of a heritage site (e.g. a fountain, a burial area, a gate, a set of murals), etc.,
- the extent of the effects of the risks on the heritage asset as a whole.

They defined the main sources of fire that threaten heritage: lightning, forest fires, gas leaks, fireworks, faulty electrical installations or equipment, smoking, candles, arson, construction and renovation works, etc. (Guide, 2016, 32/97)

7.1. Addressing the problem of fire in the case of wooden heritage

In the case of monuments, the main concern is to protect the building, not the people. However, these two different starting points do not produce significantly different results. In most cases, good fire protection of a building will also protect the people. The main difference lies in the emphasis on escape routes.

Fire protection of historic buildings and sites is more complex than the protection of ordinary contemporary buildings due to technical issues, alarm issues, collateral damage issues, aesthetic issues, economic issues, and the like.

Fire extinguishing systems are almost entirely dependent on water, and their installation involves great expense. When cultural properties are located in remote areas, where it is impossible to use the public water supply, huge water tanks have to be built. The network of pipes from the water tanks, or for that matter from the public supply, requires careful planning to avoid disturbing the archaeological material in the ground.

The approach to protecting monuments from fire should follow a clear strategy:

1. Causes of the fire: After going through the possible causes of the fire, the most obvious causes must be selected and evaluated in relation to what is historically, practically, technically and financially feasible, as well as the limits in these areas.

2. Fire prevention measures: These are measures that target the probable causes of fire to prevent the outbreak of fire. These measures are implemented by comparing the possible causes of fire with what is technically and practically feasible, within the financial and historical framework.

3. Residual risk: This refers to the failure of fire prevention measures and fires resulting from causes not covered by such measures. This residual risk is usually greater than is acceptable.

4. Fire mitigation measures: These measures are intended to reduce the damage resulting from a fire or the extent of a fire. The residual risk is assessed in relation to the likely evolution of the fire and what is practically and technically possible within the financial and historical frameworks.

5. Accepted residual risk: Within the residual risk, which we must accept, is the failure of fire prevention measures or fires resulting from causes not covered by such measures, while, simultaneously, there is a failure or under-dimensioning of fire limitation measures. The accepted residual risk should be inversely proportional to the historical value.

Fire prevention measures are measures that are directed at the cause of a fire:

• lightning protection equipment to prevent fire after being struck by lightning;

• installation and maintenance of burglar alarms and/or video surveillance to prevent intentional fires

• working conditions for all those working in the administration, maintenance and upkeep of a monument, who must be trained and comply with fire prevention rules;

• critical assessment and modernization of electrical equipment to prevent fire resulting from electrical system failures;

• assessing the need for installations and usage patterns to exclude as many causes of fire as possible, etc.

Fire mitigation measures must be evaluated and implemented because it is much better to prevent a fire than to extinguish it, no matter how quickly this is done.

These measures include automatic extinguishing equipment and, in some cases, the demarcation of the building and its surroundings to prevent the spread of fire. Such facilities may include accessible extinguishing equipment. Ideally, the fire service will be located close enough to be significant in assessing the safety of buildings.

The local intervention brigade is the ideal situation, which together with a detection system, portable extinguishers and external hydrants, can be lifesaving.

Article 13 of the Principles for the Conservation of Historic Wooden Structures, adopted by the International Timber Committee of ICOMOS , in Datong, China, in June 1998, states that: "utilities, such as heating, and fire detection and prevention systems, should be installed with due regard to the historical and aesthetic significance of the structure or site."

From this point of view, fire protection strategies based on sophisticated automatic alarm systems and expensive and complete automatic fire extinguishing systems (e.g. sprinklers) must be analysed deeply and comprehensively before being taken on. Here are some reasons that must be carefully considered:

- the installation costs of such systems are expensive,

- the maintenance of these systems is very specialized (cannot be done by the monument administrator), must be periodic and is expensive,

- the adaptation of water-powered systems for monuments that are not equipped with heating systems, or for installation in building bridges, is subject to additional costs to make them functional at temperatures below zero degrees;

- in the event of a false alarm, water jets cause sometimes irreversible damage to painted surfaces or heritage objects,

- alarm devices, sprinkler heads, electrical cables and necessary water pipes are highly visible and difficult to adapt to the sensitive interior of historic buildings.

- the lifespan of these installations: after the warranty period expires, the installations must be replaced, which generates high costs shortly after installation (for example, in the case of electronic equipment in exposed environments, the lifespan is between 5 and 10 years).

Fire prevention and containment measures can affect historical monuments and it is necessary that their installation be taken after a complete analysis of secondary damage:

- physical destruction (e.g. drilling holes),

- long-term physical damage due to improper solutions leading to condensation, water ingress, etc.

- physical wear and tear through operation and maintenance, repairs, etc.

- water damage resulting from accidental activation of extinguishing equipment,

- water damage resulting from extinguishing a fire,

- actions that have a negative effect on the entire aesthetic experience,

- destruction of possible archaeological remains, for example, through excavations necessary for the installation of a water supply. (*Larsen/Marstein, 2016, chap. 7)*

7.2. Simple and effective fire protection measures

Fire protection measures should be as simple as possible, as inexpensive as possible, as inconspicuous as possible, as easy to maintain by the monument administration, and as easy to use in the event of a fire.

The lightning rod installation must comply with current legislation, and must be periodically checked by specialized teams.

Alarm systems involve installing smoke detectors and connecting them to an electronic system that announces the danger. The announcement must reach the nearest fire brigade, but the distance is not always short and easy to travel by special vehicles. Until the fire brigade arrives on the scene, a local intervention team should be trained to act quickly.

Automatic extinguishing systems can be installed if all the adverse effects mentioned in the previous sub-chapter have been understood and mastered in the first place by the owner and administrator of the monument. In the case of the Norwegian stavkirche churches, an advanced detection system and extinguishing system with “water mist” sprinklers were chosen for all 28 medieval wooden churches.

Local volunteer fire brigades should exist in all villages (especially in villages with historical monuments), because they can act immediately after detecting a fire, and the precious time that elapses between detection and the arrival of fire trucks can limit losses. Volunteer fire brigades exist in rural areas of many countries: England, Germany, Austria, Poland, France, America, New Zealand, Australia, Canada, etc.

7.3. The problem of fireproofing wooden structures

Consulting the Wood Heritage Charter , the only reference to this subject is in Article 26: "the use of chemical materials must be carefully controlled and monitored and must only be used where there is an assured benefit, where public and environmental safety will not be affected and where there is an expectation of significant long-term improvement".

There are countries with a strong tradition of historic preservation, such as the UK, where fire codes do not require existing historic timber in historic properties to be treated with a fire retardant. Instead, the emphasis is on preventing and

detecting fires through the use of detailed fire plans, regular maintenance and fire drills, fire detection systems and, in some cases, modern mist sprinkler systems.



Fig.21 The wooden church in Borgund, Sogn, Norway, during a test of the sprinkler fire extinguishing system in 1982. Source: (Larsen/Marstein, 2016, pg.76)

Fire retardant solutions must be understood and assimilated as treatments that "reduce the flammability of wood, reduce the burning rate and decrease the spread of flame on the surface of the wood. The active substances are decomposed by combustion into other flammable gaseous substances (which reduce the amount of oxygen needed to burn the wood); these are released on the surface of the wood and reduce the amount of oxygen so much that flammable and combustible gaseous mixtures cannot be produced. In addition, the active compounds act in the mechanism of the wood decomposition reaction, preferentially absorb the large amount of heat and slow down this decomposition by forming a carbonized surface layer that has a significant insulating effect and prevents further combustion" (Bochemit).

The use of fireproofing solutions is evaluated and misunderstood, and is often applied by designers or requested by owners or execution teams, as a universal panacea , which very simply solves the fire protection of a monument. However, the problem has several facets, some of which reveal negative aspects for historical monuments.

For example, "preparation of surfaces before treatment with fire retardants" as provided for by the Romanian legislation applicable in this field. In the case of historical monuments, this operation means the irreversible destruction of historical information that wooden structures carry, such as original decorations, traces left by craftsmen's tools, notations made by them, graffiti left by users of

the building over time, etc. Moreover, by applying fire retardant solutions, the texture and colour of the historical material can also be modified, or in the most serious case, chemical solutions can destroy the cellular structure of the wood.

It is very important to define how the surfaces will be prepared for the application of fire-retardant products. The following are acceptable: vacuuming, possibly removing accumulated dust with compressed air, helped by a broom or a soft brush. Wire brushing and sanding should be avoided in any way, on the one hand to avoid losing historical information, and on the other hand because if the wood surface is rough and scratched, it is more exposed to the danger of fire, biological attacks and moisture absorption.

Filling cracks, joints or holes is to be avoided, because over time they do not retain their shape and properties. Due to the dimensional changes of wood depending on the variations in microclimatic conditions (temperature and humidity), these fillers contribute to the expansion of cracks and fissures, and after a while they are expelled.

The regulations in the field provide for an advisory nature for constructions that are historic buildings. Measures to improve fire performance must be adapted to each individual situation, so that the implementation of the measures is possible without affecting the character of the historic building.

Manufacturers of fire-retardant materials have greatly improved the properties of fire-retardant materials, so that the applied solution does not form a film, is absorbed into the wood mass, can be colourless and doorless. Often, fire retardant solutions are associated with treatments against biological attacks, and thus with a single application, several problems are solved and several risks are mitigated, so this alternative is tempting. The active solution is boric acid, which is considered environmentally friendly. However, manufacturers warn that over time the surface of the wood may turn yellow.

As an application method, the ideal is immersion in the solution, in specific pools, but brushing or spraying is also accepted, in the number of layers recommended by the manufacturer.

For interior surfaces, the validity of the solution is unlimited in time, but for exterior surfaces, treatments must be repeated periodically, which is an issue that monument owners consistently forget, so that the fireproofing becomes null and void a few years after the building has been put into operation.

The decision to apply fireproof solutions must be deeply analysed by all those involved in protecting historical monuments, taking into account all the collateral aspects of this treatment.

CHAPTER 8. PROBLEMS SPECIFIC TO WOOD HERITAGE. PHOTO-DEGRADATION

In outdoor environments, wooden surfaces undergo a series of changes caused by alternating exposure to solar radiation and humidity. Wood loses its surface

coherence, as the strength of the cell wall bonds is lost over a depth of a few millimeters. Surfaces become rough as the wood fiber contracts and micro-cracks turn into cracks. In addition, wooden elements can deform, twist and detach from the supporting structure. The rough surface changes colour and accumulates dust and organic particles.

This type of decay is not similar to rotting, but its effects create favorable conditions for biological attacks, the cracks facilitate the penetration of fungal spores and insects into the wood, and the retention of moisture. Then, over time, rainwater washes away the degraded portions and further erosion occurs.

Wood erosion depends on the density of the wood: earlywood erodes faster than latewood, at a rate ranging from 1 mm/century to 13 mm/century. In Japan, exposed softwood surfaces are estimated to erode at an average rate of 3 mm/century (Larsen, 1994,56).

The causes of this type of wood degradation are:

-frequent exposure of the wood surface to rapid changes in humidity (repeated wetting and drying);

-dew, rain or snow falling on unprotected wood is quickly absorbed by capillary action on the surface layer of the wood, followed by adsorption into the cell walls of the wood. The consequence is that the moistened wood swells, in counterbalance to the dry wood below. As the surface swells and dries, alternating tensile and compressive stresses are formed in the wood, which can cause tears and cracks parallel to the wood grain.

Photochemical degradation of wood due to sunlight occurs quite rapidly on the exposed surface of the wood, and the wood undergoes initial colour changes: a yellowing or browning that can continue to an eventual graying in rainy climates. The changes affect only those parts of the wood close to the exposed surface and occur at a depth of 0.05 - 2.5 mm. These colour changes are the result of sunlight, especially UV light, initiating the photodegradation. Photodegradation by UV light induces changes in the chemical composition of the wood, mainly leading to the degradation of lignin. Most of the dissolved lignin degradation products are washed away by rain, allowing light to penetrate deeper into the piece. (*Larsen / Marstein, 2016, 88).*

Stages of photo-degradation:

-from the first exposure to sunlight, UV radiation triggers chemical reactions in wood, breaking down lignin (the natural glue of wood) and other light-sensitive compounds;

-discoloration: the first sign is yellowing or browning, progressing to gray in humid conditions;

-surface erosion: the wood surface loses its coherence, becomes rough and friable, leading to material loss and decreased load-bearing capacity;

- structural degradation: erosion of structural components (beams, consoles) can compromise the stability of the entire building.

The restoration of photo-degraded wooden elements is difficult and the amplitude of the intervention must be well argued and planned because, as mentioned in Article 12 of the Venice Charter, the replaced fragments should integrate harmoniously with the whole, but at the same time be easily distinguishable as a contemporary intervention in relation to the original material.

The same recommendations are made in Article 10 of the Principles for the Conservation of Historic Wooden Structures, adopted by the International Timber Committee of ICOMOS , in Datong, China, in June 1998, which stipulates that new elements or parts of elements should be distinct from existing ones.

"Artificial patina", imitating natural deterioration or deformation of replaced elements or parts, is not desirable. In England, for example, it is recommended that repairs be carried out honestly, usually without attempts at disguise or artificial ageing, but, on the other hand, repairs should not be visually aggressive, and unnecessarily ostentatious in showing off the new intervention.



Fig. 22 The balustrade of the Breb Parish House, where you can see the elements degraded by the action of the sun and humidity to the point of complete weakening of the boards and the breaking of the decoration fragments (left) and the restoration method where the completed elements were impregnated with a stain so that the contrast between new and old is not too aggressive. The new elements are easy to identify first by the lighter shade of the colour, and on a closer look by the surface texture which is rough on the old elements compared to the smooth one on the new elements. Source: Laura Zaharia

Appropriate traditional methods or well-tested modern methods can be used to match the colour of the old to the new, provided that this does not damage the surface of the wooden element. However, the staining of unornamented wood by chemical or physical processes has been widely used throughout the world.

According to the experience of Japanese conservationists, if new elements are left untreated, the adaptation of old and new elements will occur naturally over a period of twenty to thirty years (Larsen, 1994, 56). However, replacing a large number of visible elements during the repair would leave the building with an unsightly appearance for a long time. Japanese conservationists have observed that the problem of matching the aesthetic appearance of new elements to the old is reduced if the new elements are made of similar wood species to the existing elements and, furthermore, if they are processed with the same tools that were originally used. In Japan, architects and carpenters also resort to various techniques to colour new elements. There is a long tradition of this even in new wooden structures; as early as the 17th century, the interior elements of tea rooms were treated to give them an old, rustic look.

In Japan, in conservation work today, two main methods are used for staining new unornamented wood elements:

-by applying a certain coating layer to the surface of the element, following an old recipe containing ink or a mineral pigment, mixed with clay or sand, and/or animal glue or date juice;

-by burning the surface of the new element with a torch, followed by brushing with a steel brush. The technique is sometimes contested with the argument that the burned surface shortens the durability of the wood by up to fifty years.

The situation where "artificial patina" is acceptable is where the colouring is relatively weak and disappears within ten to fifteen years, gradually allowing the new item to age naturally and acquire the desired patina.

Some measures that can be taken following a complex and integrated analysis of the entire monument, aiming for a balance between preserving historical integrity and implementing modern solutions, focusing on reducing exposure to light (especially UV) and heat to slow down the inevitable natural weathering process:

-UV filters/films applied to window glass to reduce UV radiation penetrating the interior to protect interiors without altering the appearance;

-strategic shading through the use of shutters, blinds or traditional awnings that can control light and heat, a practice recognized since the 19th century;

-surfaces that have traditionally been covered with paint will be re-painted according to a schedule established in the building maintenance manual;

-modern technologies can bring benefits in the behavior of wood to climatic factors, but their application in the case of historical monuments must be well thought out and argued. For example, steaming wood is a good procedure for reducing colour variations of wood exposed to UV rays, for reducing internal stresses and destroying existing biological agents;

-in extreme situations, decorative elements affected by photo-degradation are either replaced with copies or covered with protective systems that can be opened when needed.

The use of old wood from other wooden structures in repair work would seem to be a suitable solution to avoid too great differences in colour and texture between new wooden elements inserted into historic structures with patina.

The situation is problematic due to the uncertainty regarding the physical and mechanical behavior of old wood. Most experts warn against using wood from another structure in the repair of timber-framed buildings, for several reasons:

- the use of recycled wood from old structures is archaeologically misleading and can generate errors in the dating and history of the monument;

-second-hand wood brought from other buildings may already be warped, and such distortions can never be compatible in another structure. Each structural element has individual characteristics, so the chances of finding a suitable old piece are small;

-wood taken from other buildings can bring with it latent biological agents that can proliferate in the new microclimate conditions;

-destruction of a historic structure to take wood to save another historic structure is reprehensible.

CHAPTER 9. ISSUES SPECIFIC TO WOOD HERITAGE. SUSTAINABILITY

A sustainable approach to preserving wood heritage means respect for traditional crafts and good quality natural materials, including limiting the use of toxic substances.

A sustainable approach means permanent maintenance work, as a set of permanent and proactive actions, aimed at preventing or slowing down the degradation of cultural assets.

In the case of restoration work, minimal intervention must be the objective to be pursued with perseverance, so that the restoration is discreet and as little visible as possible. However, we must also consider the context of understanding the knowledge of previous generations regarding the craft with which wood was exploited, cut and processed. Attention directed towards the use of forests and the use of wood in sustainable structures is very important, because forests are the main resource that we must take care of, being not inexhaustible.

9.1. Craftsmen, crafts and traditional tools

In order to be able to intervene in a historic wooden structure according to Article 5 of the Principles for the Conservation of Historic Wooden Structures, adopted by the International Wood Committee of ICOMOS in Datong, China, in June 1998, knowledge of traditional craft techniques is required , together with the conservation of material resources. The unbeatable model is that of the Japanese who systematically promote the use of historic materials, crafts and traditional building techniques. Furthermore, Japanese heritage legislation provides for the

protection of historic techniques and recognizes individuals and institutions that can transmit knowledge of these techniques to future generations. (*Larsen/Marstein, 2016, 56-57)*

To understand the builders and carpenters of the past, to gain knowledge about their tools, to identify regional and local schools, to discover how innovations in building technology spread, we must be able to interpret the traces left by the tools of the ancient builders on the beams of existing buildings. Investigation of building techniques and construction technology, craft techniques and the use of materials should be an integral part of architectural conservation work when working with historic wooden structures. It is the carpenters who hold the key to a truly profound understanding of the art of wooden construction.

"The Medieval Program" managed by the Directorate for Cultural Heritage was carried out between 1991 and 1999 , during which all buildings dating from before 1537 were restored (an emblematic year for Norwegian history because it marks the loss of autonomy, subordination to the Danish kingdom and the imposition of the Lutheran Church as the state church and conventionally marks the end of the Norwegian Middle Ages). The "Medieval Program" was continued between 2001 and 2015 with the " Stave Churches Program " (restoration program for stavkirke churches), carried out between 2001 and 2015, during which all 28 medieval churches still existing in Norway were restored.

"The Medieval Program" played a very important role in creating a community of carpenters well-trained in the restoration of medieval buildings, who in turn could transfer their knowledge to future carpenters. Through the project program, experienced carpenters and other craftsmen acted as instructors in both theoretical and practical teaching programs. The Directorate for Cultural Heritage also took into account the particularities of crafts at the local level, so that a craftsman representing a specific local tradition would not teach for long periods of time in another region, in order to prevent the export of local building traditions to other regions. The program aimed to maintain the traditional diversity of technical solutions and local or regional carpentry techniques.

To meet the requirements of the Norwegian "Medieval Program", subsidiary suppliers of traditional tools were also employed, such as local blacksmiths who were contacted to produce specific tools. Small water-powered frame saws and water-powered shingle planers were repaired and restored, along with waterways and dams providing hydroelectric power.

After completing the "Medieval Program", the Norwegians were prepared to carry out the "Stave Churches Program" at an exceptional qualitative level, having the entire infrastructure of specialized and experienced craftsmen, all the knowledge necessary for minimal interventions in the very special structures of the old medieval churches, and last but not least, a reserve of quality wooden material.

The “Medieval Programme” is an example of how government policy for regional development can be put into practice. Many of the carpenters involved in the programme have gained an increased workload after participating in the historic building repair programme. At the same time, they are also active in building new wooden structures, thus bringing their knowledge of sound craftsmanship techniques to contemporary building work. Their contact with restoration and repair work has given them new opportunities and a deeper understanding of buildings that are ecological and also adapted to the local climatic and physical conditions. (*Larsen/Marstein, 2016, 56-57)*

9.2. Wood and forests

The preservation of historic wooden structures begins in the forest. The sustainable use of forest resources, which constitute the natural resource for wood, has always been a problem of civilizations throughout history. The lack of good quality and large-sized wood material appeared as early as the Roman Empire, when the stone structures of buildings had to be designed in such a way that the wooden frames could be sized to reasonable lengths and sections. The problem has continued throughout history in all poor in forests regions. And today, quality wood that is compatible with historic structures is becoming increasingly difficult and sometimes even impossible to procure.

To preserve existing wooden structures or to rebuild wooden structures after a disaster, new wood of adequate quality is needed to replace damaged or destroyed parts. The first requirement for new wood is that it be of the same species and have properties and dimensions compatible with the original material.



Fig.23 Irrational exploitation in the forests of Maramures. Source: Laura Zaharia

Article 12 of the Principles for the Conservation of Historic Timber Structures, adopted by the International Timber Committee of ICOMOS in Datong, China, in June 1998, provides for the establishment and protection of forest or wooded reserves – " Historic Forest Reserves " – from which timber suitable for the conservation and repair of cultural timber heritage can be obtained. It is recommended to find and protect existing natural forests containing historic species of the maturity traditionally required for construction work, and it is proposed to plant species depleted by over-exploitation.

In Norway's " Medieval Programme ", one of the problems faced by the work teams was the difficulty of finding suitable timber for the restoration of the sites. So stores, called "material banks", for traditional building materials were established in various regions throughout the country, carefully selected in cooperation with local forest owners so as to respect the quality of the wood used in the original construction work. The result is that today there is a growing interest among forest owners to maintain similar reserves for the future.

The idea of establishing forest reserves for construction purposes is not, however, a new one. A famous example is that of the Venetian Republic from the 19th to the 15th centuries when there was a pressing need for good quality timber for the Venetian shipbuilding industry and for the pile foundations under buildings, floor structures and roofs in Venetian buildings. The Venetian Republic understood that the wealth of the Republic actually began in the forests and provided laws and regulations to protect and develop the forests.

The ICOMOS Timber Committee's proposal to establish Historic Forest Reserves links the conservation of cultural heritage with the conservation of nature, pursuing the fundamental need to maintain the balance between people and the environment. Our responsibility is not limited to wooden structures, but also extends to the conservation and sustainable use of forest resources. (*Larsen/Marstein, 2016, 56-57)*

When craftsmen of the past went to the forest and selected the trees needed for the future wooden construction, to choose the right size they referred to the dimensions of the element for which the wood material was needed. The guiding principle was to cut trees no larger than was strictly necessary. Another principle was to cut them in the autumn and winter when the vital processes of the trees were slowed down and the danger of biological attacks was much diminished. Moreover, the transport of the logs was made easier because the ground was frozen and covered with snow.

Before cutting, the qualities of the trunk were evaluated: mature specimens, valuable due to the large heartwood surface, which made the wood stable in use and very resistant to biological attacks. Other criteria were the shape and size of the trunk, the appearance of the bark and the density of knots, the clear and dense sound generated by the trunk when struck with an axe.

Traditional knowledge about tree selection for construction work is gradually being lost. It should be a fundamental duty for those who are concerned with preserving the authenticity of the world's historic wooden structures to clarify society's need for high-quality secular timber for conservation work and to study the methods and techniques that have been traditionally used for selecting timber for construction. (*Larsen/Marstein, 2016, 56-57)*

9.3. Use of toxic substances

In the chapters on biodegradation (chapter 6) and fire protection (chapter 8) the issue of the use of toxic substances was addressed, with the conclusion that their use in the conservation of historic wooden structures should be kept to a minimum. Almost without exception, fungicides, insecticides and fire retardants have undesirable side effects.

Article 14 of the Principles for the Conservation of Historic Timber Structures, adopted by the International Timber Committee of ICOMOS, states that *"the use of chemical preservatives should be carefully controlled and monitored and should only be used where there is an assured benefit, where public and environmental safety will not be affected and where the likelihood of long-term success is significant".*

Over time, humanity has found methods to give wood the best chance of resistance over time. For example, oils, tars and resins were applied to protect the wood used in bridges over water. For wood that came into contact with the ground, it was common to burn the surface superficially, in order to obtain a carbonized layer that provided protection for the wood. Similarly, pitch applied to the surface that came into contact with the ground provided a barrier against biological attacks. Animal, vegetable and mineral oils were used on all meridians, over time, to "nourish" the wood and give it resistance over time. Other more extensive and complex methods included immersing the wood in seawater or in peat bogs. But there were also simpler methods that had to be applied annually, such as the Indonesian ritual of washing wooden houses with a solution of tobacco and cloves with a fungicidal and insecticide effect (confirmed by laboratory tests).

The industrial revolution brought powerful and very efficient methods, harmful to the environment in proportion to their efficiency. Industrial wood preservation emerged by impregnating with protective fluids under high pressure. However, the solutions applied were toxic (for example: creosote as a tar-based substance, or copper, chromium and arsenic salts for water-based solutions).

After the Second World War, the concept of Integrated Pest Management (IPM) emerged and is increasingly being applied. The accepted solutions for treating wood are designed to be environmentally friendly, but these properties are not necessarily compatible with effective wood preservation. New solutions are being sought in a biochemical and biological approach to controlling pests in wooden

structures, which works on the principle of making the wood indigestible for fungi instead of poisoning the wood.

For painted timber structures, Article 7 of the Wood Committee Principles recommends that when renewing surface finishes (paints) the original materials, techniques and textures should be replicated as far as possible. Paint systems have been designed to protect the wood: a traditional linseed oil-based paint saturates the outer layer of the wood cells so that water cannot easily penetrate the wood, but allows water accumulated inside to evaporate. Modern paint systems can have a detrimental effect on the wood: protection against water penetration from the outside may be very good, but water can also come from the inside and moisture can remain trapped inside the wood, favouring biological attacks.

A sustainable approach to choosing wood for construction is to speculate on the natural durability of wood, more precisely the use of wooden elements cut from the heartwood, which is much more resistant to the action of biological factors. The development of industrial log cutting equipment has favored the intensive use of its section, with the application of impregnation solutions, toxic to biological agents, but equally toxic to the environment and to humans.

The sustainable approach must be applied both in the design of buildings and in their maintenance: wooden structures must be kept dry and ventilated. It is the simplest and safest method of preventive conservation. (*Larsen/Marstein, 2016, 95-98)*

9.4. Preventive conservation

Museums have found that routine daily maintenance work prevents the deterioration and deterioration of museum artifacts. The repeated replacement of damaged or worn-out parts and maintenance work are part of the traditional maintenance of a historic wooden structure and should be accepted as an essential aspect of the cultural and historical value of the structure.

The first step towards preventive conservation is the correct assessment of the condition of a historic wooden structure, and the monitoring of any deficiencies that may have arisen at a given time. These are the responsibilities of the building owner, transferred if necessary to the building user, and in either case, technical support from a specialist is advisable.

The objective of a maintenance policy should be to keep the structure in optimum condition at the lowest possible cost. Unfortunately, many owners of historic buildings take a negative approach to the principle of regular maintenance and problems are only dealt with when they are obvious and can no longer be avoided. For example, an outbreak of dry rot may be caused by a single gutter or downspout that has been leaking for a long time. Such a problem can be remedied at a small fraction of the cost of treating the dry rot, and neglecting such small

routine repairs inevitably leads to greater effort and expense and, ultimately, to major repairs that could have been avoided or at least postponed.

Maintenance work can be:

- routine work, which includes actions that can be done by the building owner, without the need to hire external labour (cleaning leaves and accumulated sludge from gutters, controlling plant growth, removing bird and small animal excrement, checking ventilation);
- periodic maintenance work, through minor repairs that require the assistance of an experienced craftsman (maintenance of gutters and downspouts, local repair of roofs, repainting). (*Larsen/Marstein, 2016, 73)*

In addition to these practical measures, theoretical aspects should not be neglected: the building owner has the duty to ensure that the building's identity document, which is the Construction Book, includes a minimum set of information:

- the building's survey,
- historical and current photographs,
- the history of the building, including repair history,
- documentation of the current physical condition. (*Larsen/Marstein, 2016, 61)*

If partial or complex restoration work has been carried out, the documentation related to the authorization and the project in the "as built" phase must be strictly kept in the Construction Book.

* * *

The heritage built of wood represents a cultural resource of inestimable value, reflecting the identity, traditions and ingenuity of communities over time. The restoration of these monuments is not only a technical undertaking, but also an ethical and social one, involving responsibility, knowledge and collaboration between specialists, authorities and local communities. In the current context, marked by economic pressures and rapid transformations, the protection of this heritage becomes an urgency. Only through education, active involvement and respect for authenticity can we ensure the transmission of these values to future generations. Thus, each intervention on wooden monuments must be seen as part of a continuous effort to preserve and enhance cultural identity.

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TRAINING MODULE
«INTANGIBLE CULTURAL HERITAGE - PROTECTION AND VALORIZATION IN CONTEMPORARY SOCIETY»

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INTRODUCTION

In the context of accelerating processes of globalization, mobility and social transformation, intangible cultural heritage is becoming a privileged field of reflection for contemporary cultural studies. Beyond its apparently stable dimension, intangible heritage is today configured as a dynamic field, marked by constant negotiations, reinterpretations and re-significations. The course aims to provide an understanding of this concept in its current form.

Understanding intangible cultural heritage as a sum of practices, representations, expressions, knowledge and skills transmitted from generation to generation, which give communities a sense of identity and continuity risks suggesting a fixity and internal authenticity of these cultural forms.

Cultural studies, however, propose a paradigm shift, directing the analysis towards the processes by which heritage is constructed, legitimized and mobilized in specific social contexts. The starting point of the course is the idea that intangible cultural heritage is not a given that does not change and, even more so, that does not need to be changed, but is the result of historical, cultural and social processes of selection and representation. Thus, what we recognize as heritage reflects not only the legacy of the past, but also what the present assumes, through understanding and adaptation.

Cultural practices become heritage to the extent that they are invested with meaning and recognized as such by communities.

Another aspect of this approach is the problematization of the concept of authenticity. Traditionally, authenticity has been understood as an inherent quality of heritage, associated with originality, with respect for “original” forms. In this perspective, transformations are often perceived as degradations or losses of essence. Contemporary approaches in cultural studies, however, argue that authenticity is in turn a social and cultural construct.

Thus, authenticity should not be seen as a fixed essence, but as the result of processes of negotiation and interpretation. What is considered “authentic” may vary as a result of the phenomenon of intergenerational transmission, through adaptation. This perspective allows us to understand heritage as a space of repeated encounters between conservation and change, between tradition and innovation.

In contemporary society, these encounters sometimes become forms of "tension", generated by processes such as globalization, cultural tourism and patrimonialization policies. Cultural practices are often reconfigured to respond to external demands, be they economic, institutional or symbolic.

The course therefore proposes a sometimes critical approach to the relationship between protection and valorization, highlighting the fact that these processes are not a given, but involve choices and hierarchies. Protecting heritage involves the institutionalization of cultural forms, which can lead to standardization and fixation, while valorization involves its integration into broader economic and symbolic circuits. In both cases, there is a risk of simplifying and essentializing cultural practices, to the detriment of their diversity and complexity.

From a cultural studies perspective, it is essential to analyze how different actors – local communities, cultural institutions, international organizations, the tourism industry – participate in the definition and management of intangible heritage.

From this perspective, the course aims to clearly highlight the role of communities in the process of transmitting and reinterpreting heritage. They should not be seen as simple repositories of tradition, communities are active "actors", negotiating the meanings and forms of expression of cultural practices. In this sense, intangible heritage must be understood as a living process, in constant transformation, and not as a fixed object intended exclusively for conservation.

Therefore, the approach of this course is also part of a reflexive perspective, which aims to revisit some true myths built around heritage and to provide tools for understanding its complexity. The focus is on analyzing the concepts of tradition, authenticity, identity and heritage, as well as exploring the ways in which they are understood and assumed in contemporary society.

By approaching heritage as a social and cultural construct, the course proposes a reconsideration of the relationship between past and present, between tradition and change, emphasizing that heritage is not only what we inherit, but also what we choose to recognize, (re)interpret and pass on.

The present course is integrated into an interregional project and aims to investigate contemporary intangible cultural heritage from an interdisciplinary perspective, focusing on its current dimension, transmission mechanisms and the challenges generated by modernity. The proposed approach goes beyond the descriptive framework of inventory and documentation, focusing on the analysis and interpretation of the relationship between heritage, community and cultural policies, as well as on the identification of sustainable and even alternative strategies for protection and valorization.

An important element of this approach is the role of university education, especially the specializations of Ethnology and Ethnotourism, in the formation of professional skills capable of responding to the current needs of society. The

university thus becomes a space for mediation between theoretical knowledge and field realities, facilitating the direct involvement of students and master's students in applied research activities.

In this sense, the course also aims to discuss some examples of good practice resulting from field research carried out by teachers, students and master's students, highlighting their relevance for the development of effective models for tracking cultural dynamics. The selected case studies primarily discuss how the rediscovery of meaning can lead to the reassumption of elements and not only to their acceptance as inherited elements belonging to the past, but also how they can be integrated into local development initiatives.

Through this approach, the course aims not only to transmit knowledge, but also to stimulate a reflection on the social responsibility of the researcher and academic institutions in the process of protecting and valorizing intangible cultural heritage. In a constantly changing context, in which the boundaries between traditional and contemporary are becoming increasingly "moving", it is necessary to develop flexible and even innovative perspectives, cultivating openness towards real communication with the "actors" involved in the further transmission of intangible cultural heritage elements, capable of supporting the vitality and relevance of intangible heritage in today's society.

The material is produced as a course support that does not aim to exhaustively treat the issue of intangible cultural heritage in contemporary society, but only to open the perspective of an approach to heritage adapted to the current context, which presents us with a multitude of manifestations that must be carefully followed in the contexts of manifestation.

In an era marked by intense cultural mobility, hybridization and continuous redefinitions of identities, intangible heritage can no longer be approached exclusively in static or conservative terms, as a simple sum of inherited traditional forms. On the contrary, it is configured as a dynamic set of practices, representations and expressions in a permanent negotiation between past and present.

The emphasis must be placed on the need to observe and interpret these manifestations in concrete contexts of occurrence and functioning, avoiding reductive generalizations or excessive idealizations.

The material also proposes a methodological approach to the field, emphasizing the importance of direct research in documenting and interpreting intangible heritage. Participatory observation, interview, narrative analysis or visual study become essential tools for capturing the nuances and local meanings of these manifestations. In this context, examples of good practice resulting from research carried out by teachers, students and master's students gain particular relevance, offering concrete models of involvement and responsible valorization of heritage.

In conclusion, this course material opens a space for reflection and exploration, in which intangible cultural heritage is understood as a living, plural and contextual reality.

CHAPTER 1. INTRODUCTION TO CULTURAL STUDIES AND HERITAGE

1.1. Defining concepts: culture, civilization

In recent decades, intangible cultural heritage has become a central concept in academic and institutional discourses, especially in the context of globalization and accelerating social transformations. Its definition and protection, enshrined in the 2003 UNESCO Convention, have led to a reconfiguration of the way in which traditions, practices and cultural expressions are understood, valued and transmitted. In this context, it is absolutely necessary to understand the dynamics of intangible cultural heritage.

Cultural studies is a complex interdisciplinary field, which emerged in the second half of the 20th century, that investigates culture not only as artistic or intellectual expression, but as a set of practices, values, symbols, and forms of everyday life. Culture is understood, in this framework, as a dynamic system of meanings.

The interdisciplinary nature of cultural studies is reflected in the use of theoretical and methodological tools from anthropology, sociology, history, media studies and semiotics. Thus, culture becomes a field of analysis where dimensions such as power, ideology, identity, collective memory and representation intersect.

Culture represents the specific environment in which people live, defining the way they perceive and understand reality. It constitutes a system of values, ideas, customs and behaviors that reflect the way of life of a society. Culture is not just a luxury or an addition to the material conditions of existence, but is an essential element of human existence, providing answers to the fundamental needs of the individual and the community. In a broader sense, culture is a form of knowledge and a mechanism for adapting to the environment, through which man affirms and strengthens his dignity.

It is also important to analyze the concept of "civilization", which refers not only to the mastery of nature through knowledge and technology, but also to the regulation of social relations through norms and institutions. Civilization is the process by which cultural values are transformed into norms of behavior, structures that shape social life and the environment. In this framework, culture is constructed symbolically, being an interpretation of reality and not a simple reproduction of it.

Cultural symbols are the result of collective experience and are constantly changing, some of them appearing and others disappearing. These symbols are an integral part of the process of socialization and re-socialization, contributing to

defining the identity and belonging of an individual to a particular community. In an era of globalization, cultural image and symbolism play a crucial role in influencing social behavior, orienting public opinion, attitudes and actions of individuals.

Otherness is not only a geographical or social concept, but also includes an imaginary component, associated with myths, values, and stereotypes that determine perceptions of the “Other.” The study of otherness helps us understand how identities are constructed and how interactions between groups become fundamental to the historical and social interpretation of human diversity.

The need for cultural, ethnic or linguistic identity is essential for maintaining psychological balance, while the need for otherness, to relate to the "other", opens the possibility of constructive dialogue. The right to ethnic identity, guaranteed in democratic societies, underlines this link between identity and cultural pluralism.

Self-knowledge, essential for understanding the other, is the foundation of an intercultural society. Dialogue between cultures, at a personal or institutional level, involves not only exchange of ideas, but also respect for fundamental differences between people. In this sense, global education must help young people understand diversity and build bridges between cultures, while promoting universal values such as respect, empathy and tolerance.

Diversity remains an important factor in the development of national and cultural identities. Economic globalization may bring some similarities between different societies, but the cultural values specific to each nation remain fundamental to the consolidation of identity. Cultural diversity is also an advantage, not only from the perspective of national identity, but also from the point of view of creativity and innovation.

1.2. The concept of heritage: evolution and redefinition

The notion of heritage has undergone significant evolution over time. Initially associated mainly with material heritage – monuments, historic buildings, works of art – the concept has gradually expanded to include immaterial dimensions, reflecting a more complex understanding of culture.

Etymologically, the term "heritage" derives from the Latin *patrimonium* , denoting the inheritance transmitted from one generation to another. In the contemporary context, heritage is defined as the totality of goods, practices and expressions that are considered valuable for the identity of a community and that are transmitted from generation to generation.

This redefinition of heritage reflects a paradigm shift towards an inclusive and dynamic one, oriented towards living cultural processes. Thus, heritage is no longer perceived only as a “treasure trove” of the past, but as an active element of the present, involved in the construction of contemporary meanings and identities. Therefore, nowadays, cultural heritage is no longer just an element to be preserved, but also a resource that can be exploited in various fields, such as

education, tourism or creative industries. This exploitation can contribute to economic development and the revitalization of communities, but also raises questions related to authenticity and ethics.

Cultural studies provide an analytical framework that allows for the critical evaluation of these processes and the identification of sustainable and ethical practices.

In the contemporary context, marked by the intensification of globalization processes, the relationship between heritage and global dynamics is becoming a topic of major interest for both academic research and cultural policies. Heritage is in a complex interaction with the forces of globalization, which can act both as factors of valorization and as sources of transformation or even vulnerability.

Globalization, defined by the intensification of flows of capital, information, people and ideas on a planetary scale, contributes to the creation of an interconnected cultural space. In this context, heritage is no longer exclusively an attribute of local communities, but becomes part of a global circuit of recognition and valorization. International organizations such as UNESCO have played an essential role in the institutionalization of heritage as a universal asset, promoting concepts such as "world heritage" or "intangible cultural heritage of humanity". This universalization implies an extension of the value of heritage beyond national borders, giving it a global dimension.

On the other hand, globalization generates processes of cultural standardization, which can lead to the uniformity of cultural expressions. In this sense, heritage becomes an instrument of identity resistance, through which communities reaffirm their specificity. Traditional practices, vernacular architecture or local customs are reinterpreted and revitalized precisely in the context of globalization pressures.

The increase in global mobility has encouraged the transformation of heritage into a significant economic resource. Tourist destinations often build their identity around heritage elements, and these become cultural products accessible to an international audience. While this phenomenon can contribute to local economic development and increase the visibility of heritage, it also raises issues related to authenticity, excessive commercialization and overcrowding of cultural sites. In some cases, heritage risks being reduced to a form of spectacle, adapted to tourist expectations, to the detriment of its original meanings.

At the same time, digitalization, as an essential dimension of globalization, is transforming the ways in which heritage is accessed and transmitted. Digital platforms allow for the archiving, preservation and dissemination of heritage on a global scale, facilitating access to cultural resources for a wide audience. Virtual museums, online databases and augmented reality contribute to the "democratization" of heritage, but also raise questions about the authentic experience and direct relationship with cultural objects or practices.

Globalization requires international cooperation, but also the harmonization of legislation and conservation practices. At the same time, tensions arise between global and local interests, especially when communities are not actively involved in the process of defining and managing heritage. Thus, the need for a participatory approach that integrates the perspectives of local communities into global heritage protection strategies is emerging.

The relationship between heritage and globalization is a dialectical one, characterized by interdependence and continuous transformation. Globalization offers significant opportunities for the promotion and valorization of heritage, but also involves risks related to standardization, commercialization and loss of authenticity. In this context, it is essential to develop balanced policies that ensure the protection of heritage, respect for cultural diversity and the involvement of local communities, in order to maintain heritage as a living and relevant resource in a globalized world.

1.3. Intangible cultural heritage: conceptual boundaries

Within cultural studies, intangible cultural heritage occupies a central place, due to its ability to reflect the living and dynamic dimensions of culture.

Intangible cultural heritage (ICH), according to most specialized studies, constitutes one of the fundamental dimensions of contemporary cultural heritage, being defined as the set of practices, symbolic representations, cultural expressions, knowledge and skills that communities, groups or individuals recognize as constitutive elements of their own cultural identity. Intangible heritage manifests itself through dynamic social processes, being transmitted predominantly through orality, direct participation and informal learning mechanisms.

Therefore, a defining element of intangible cultural heritage is its structural dynamism. It evolves over time, adapting to new socio-economic and cultural contexts, without losing its identity function. From this perspective, intangible heritage becomes an indicator of the cultural vitality of a community.

Intangible cultural heritage plays an essential role in the processes of building, maintaining and negotiating cultural identity. Through traditions, rituals and artistic expressions, individuals define their belonging to a community and build their symbolic landmarks. It contributes to the transmission of values, norms and beliefs over time, ensuring cultural continuity.

Intangible heritage facilitates intercultural dialogue, providing a framework for recognizing and valuing cultural diversity. In the context of globalization, it acquires a function of "symbolic resistance", therefore, allowing communities to affirm their cultural specificity and avoid processes of uniformity.

The main forms of intangible heritage include:

- oral traditions and expressions (including language)
- performing arts

- social practices, rituals and festive events
- knowledge and practices related to nature and the universe
- traditional crafts, etc.

➢ **Oral traditions and expressions** - represent one of the most archaic forms of intangible cultural heritage, including myths, legends, fairy tales, proverbs, riddles and lyrical creations transmitted orally. These cultural forms function as mechanisms for preserving collective memory and transmitting moral and symbolic values.

In Romanian culture, creations such as *Mioriţa* or *Meşterul Manole,* for example, illustrate the identity and narrative function of oral heritage. Most of the time when trying to identify elements of Romanian specificity, reference is made to these texts. However, the oral nature of these traditions gives them an increased vulnerability to modernization and the diminishing role of traditional communication, but especially to the loss of knowledge of the specific communication code.

This is how we came to talk about the resignation of the shepherd from *Mioriţa* in the face of death, for example. In this case, however, we start from a clear misunderstanding of the traditional man's relationship with death. The "beautiful", natural death had nothing tragic in the Romanian mentality. The secret murder canceled that naturalness and, therefore, the shepherd's will comes to restore that state of order. The absence of the will would have allowed us to talk about the tragic, about resignation, the will completely changes this state of affairs, talking, in fact, about assuming death and about bringing the tragic into the space of the sublime. The sublime is not understood in traditional environments under the sign of the extraordinary, but, on the contrary, the sublime means assuming a limit, conscious participation in the limit and overcoming the limit. These stages lead to the foundation.

In *Mioriţa* , we are actually talking about how the founding myth is reconstructed, a social and professional foundation, first of all, but, above all, that cosmic foundation so beautifully reconstructed in Death as a Wedding and within the Shepherd's Testament.

Moreover, in *Meşterul Manole* we are also told about a reconstruction of a strong Center, the woman becomes a body of brick and stone. Let us not forget that in the traditional mentality the woman is capable of building, recovering and maintaining strongly that Center capable of maintaining the unity and balance of a circular movement of the Being in its becoming. If we shift all the emphasis of the interpretation to the sacrifice, to the hardness of the craftsman's gesture without recovering the code, we risk truly losing the meaning.

➢ **Social practices, rituals, and festive events -** structure community life, marking moments of transition for the individual and calendar cycles. These practices contribute to strengthening social cohesion and reproducing the symbolic order of the community.

Wedding customs, caroling, Easter rituals or traditional festivals are relevant expressions of this category, also having an educational role, through the active involvement of new generations. We can speak here of the function of celebration, which, even if it is no longer assumed totally consciously, manages to take man out of the profane and to periodically allow him contact with the sacred.

- **Traditional knowledge about nature and the universe -** includes empirical knowledge systems related to the natural environment, transmitted through experience and observation. Traditional agricultural practices, the use of medicinal plants or the interpretation of natural phenomena reflect a balanced relationship between humans and nature and can constitute valuable resources for the development of sustainable ecological practices.

Man cannot live alone, he belongs to the macrocosm and the microcosm. The relationship between man and nature has been and remains active, even in forms not fully assumed, we can still speak of that "being in time" that generates the recovery of order in a world of disorder.

- **Traditional crafts (** pottery, weaving or woodworking, etc.) - are expressions of creativity and cultural identity. Transmitted through apprenticeship, they reflect the adaptation of communities to local resources and social needs. In the context of industrialization, these practices face the risk of marginalization and extinction.

We can also talk in this case about a return to clay, wood, wool, sewn signs, etc., which make man feel closer to that "greater" thing of which he is a part.

- **Music, dance and traditional gastronomy –** also have a very important role: traditional music and dance have ritual, social and aesthetic functions, being integrated into celebrations and community events, traditional gastronomy constitutes an essential component of the intangible heritage, in turn reflecting the history, natural environment and social structures of communities. Traditional dishes thus acquire a symbolic value, becoming carriers of collective memory and cultural identity. Eating is a particularly important symbolic act, food nourishes not only physically, but also spiritually. The feast, meals together have a decisive role in restoring communication with the horizontal, but also with the vertical.

Music and dance are capable of speaking about complex systems of syncretic communication, through which man in archaic and traditional environments declared his belonging to the social, but also to the cosmos.

Unlike tangible heritage, it exists only to the extent that it is practiced, transmitted and reinterpreted by communities. Therefore, intangible heritage cannot be passively preserved, but requires active involvement and social continuity.

1.4. Culture, heritage and identity

Culture, heritage and identity are fundamental concepts that define the existence and evolution of a society. They are closely linked to each other,

influencing how people perceive themselves and their relationship with the past, present and future.

Culture is not limited to art or literature, but also includes lifestyle, language, social norms, and everyday customs. For example, the way people celebrate certain events or the way they communicate reflects the cultural identity of a community.

Heritage is an essential component of culture, it can therefore be: material, such as historical monuments, buildings, art objects; or intangible, such as traditions, folk dances, music or customs. Heritage represents the living link between the past and the present, offering people the opportunity to understand their origins and preserve their collective memory. Protecting heritage is an important responsibility, because its destruction or forgetting leads to the loss of part of a nation's identity.

Identity is the result of the interaction between culture and heritage and represents the way in which an individual or a community defines itself. It includes elements such as: language, religion, traditions, values and shared experiences. Identity is not something fixed, but transforms over time, being influenced by social, economic and political changes. However, even in the context of these transformations, the basic elements of identity remain anchored in culture and heritage.

Culture creates heritage, heritage preserves culture, and identity is formed by internalizing these elements. Thus, popular traditions or national holidays are not just simple cultural manifestations, but also expressions of collective identity. By participating in these events, individuals reaffirm their belonging to a community and strengthen their sense of identity.

In the context of globalization, there is a risk of cultural uniformity, which can lead to the loss of diversity and local specificity. External influences can modify traditions and values, sometimes to the detriment of authenticity. However, globalization can also have positive effects, as we have stated above, facilitating cultural exchange and the promotion of heritage at an international level. Therefore, it is important to have a balance between openness to the world and preserving one's own identity.

Education plays an essential role in transmitting culture and protecting heritage. Through school, family and community, new generations learn about the values and traditions that define their identity. Cultural institutions, such as museums, libraries and cultural centers, also contribute to the preservation and promotion of heritage. The active involvement of society in these processes is crucial for maintaining cultural continuity.

In the context of globalization, this relationship becomes even more complex, intangible cultural heritage becomes an essential tool for affirming local identity and maintaining cultural diversity.

The Romanian cultural model, in its historical evolution, has been predominantly characterized by a reactive and adaptive attitude, often manifested under the influence of exogenous landmarks that have guided its development. This dependence on external factors does not, however, exclude the capacity for internal innovation, manifested through mechanisms of adaptation and reinterpretation of the cultural elements taken over.

The imitative tendency, expressed through the desire to align with external models, was reflected also in the field of architecture and public events, generating artificial, kitsch-type cultural forms, sometimes lacking authentic axiological landmarks, but with commercial relevance and compatible with the logic of globalization.

The promotion of national values and the preservation of their authenticity are required as a necessary response to the cultural uniformity trends characteristic of the contemporary world, trends signaled by numerous cultural theorists. The uncritical acceptance of these trends, whether for reasons of cosmopolitanism or for economic considerations, contributes to the erosion of cultural identity and the transformation of culture into a consumer good.

Such a process facilitates the circulation of non-values or cultural models incompatible with the national specifics, with the traditional structures of thought and sensitivity. The intensification of external influences, together with the systematic organization of events that promote them, leads to a decrease in interest in local creation, especially among young people, while also narrowing the space for affirming the Romanian cultural message within the global intercultural dialogue.

In archaic and traditional societies, the world was perceived as a coherent and meaningful whole, characterized by a functional balance between social structure and the natural environment. The universe was configured for the individual as a comprehensive horizon of experience and action, the environment being assimilated to a fundamental reality.

A representative model of this type of social organization was the village, understood as a relatively stable community of individuals who shared a common set of spiritual, material and symbolic values. Anthropological and sociological studies converge on the idea that man, regardless of the era, was integrated into a social system, and his actions were subsumed by collective norms and practices, regulated by a recognized authority.

The individual was not conceived as an autonomous entity, but as an integral part of a social group and a natural environment, relating to the world through this structural affiliation. In this framework, the social system, as a repository of information and cultural norms, limited the development of abstract theorizing in the process of understanding reality.

The traditional Romanian village has represented an important reservoir of cultural forms, ethnographic data and identity values. Although it is in an

accelerated process of transformation, rigorous research can still provide scientifically relevant material. The emergence of innovation in the rural environment became evident with the adoption of living conditions specific to the urban environment, such as the introduction of modern utilities. The phenomenon of migration has contributed significantly to the intensification of these transformations.

In the contemporary period, numerous villages have experienced a gradual process of depopulation. The Romanian village, regardless of the geographical area, shows pronounced tendencies of destructuring and decline.

Nowadays, the village can no longer be defined exclusively by its traditional coordinates. Kinship relations and community solidarity have lost their central role, being replaced by a strong orientation towards individual material achievements. With the decrease in authentic communication between community members, tradition undergoes a process of progressive erosion, leaving room for forms of invention. Researchers report as serious the phenomenon of dilution of the spiritual dimension, which requires the recovery and reconstruction of those elements remaining from the Romanian tradition.

We must note that the village still has that power to produce the return to a system of values that does not let man fall completely into "chaos". The village as a place and as a time, not the village as a strictly geographical space . The village should not be idealized as a static or isolated space. On the contrary, its power to regenerate identity derives precisely from the capacity to integrate change without losing its core values. Interaction with modernity, migration or media influences does not cancel rural identity, but rather challenges it to redefine and adapt. In this process, tradition becomes a dynamic instrument, capable of mediating between the past and the present. This is increasingly evident today. Even those who return to the village after a good period of "escape" in the urban area feel this desire to get caught up in the game of rules that offer them stable identity landmarks, in contrast to the fluidity and instability characteristic of the contemporary urban environment.

From the perspective of cultural theory, the village functions as a “reservoir of meaning”. Practices such as rituals, celebrations, crafts or other oral forms of knowledge transmission have contributed to the consolidation of a coherent community ethos. Even today’s village, especially in more conservative areas, operates in a cyclical temporality, in which the rhythms of nature and tradition structure daily life. This temporality still allows for a reconnection with dimensions of existence often marginalized in modernity, such as: sacredness, solidarity and continuity. The recovery of identity values is not, in this sense, a process that means “relapse” into the past, but one of re-anchoring in structures of meaning.

In conclusion, the village represents an essential framework for the recovery and reconfiguration of identity values, offering an alternative model of cultural and social cohesion.

1.5. The need to protect intangible cultural heritage

Cultural institutions, the state and international organizations play an important role in defining and protecting heritage. However, these processes are not neutral, but may reflect political, economic or ideological interests. For example, certain traditions may be promoted to build a national identity, while others may be marginalized.

In this context, it is essential to adopt a critical perspective on heritage that takes into account the diversity of cultural voices and experiences. Cultural studies provides the necessary tools to analyze these dynamics and to promote an inclusive and participatory approach.

Culture is a dynamic phenomenon, and heritage – especially intangible heritage – represents a living expression of identity and collective memory. The interdisciplinary approach of cultural studies allows for a deep analysis of the relationships between culture, power, identity and globalization. In this context, intangible cultural heritage becomes not only an object of study, but also an essential tool for promoting cultural diversity and building inclusive societies.

Understanding these dimensions is fundamental for developing effective policies and practices for protecting and valorizing heritage, which respect both tradition and contemporary needs.

Safeguarding intangible cultural heritage is a priority in the context of contemporary social transformations. Globalization, urbanization and economic changes contribute to the decline of traditional practices.

Intangible cultural heritage, by its dynamic and participatory nature, allows communities to transmit their values and affirm their cultural continuity. The main challenge is to find a balance between conservation and adaptation, so that intangible cultural heritage remains a living expression of culture and not a rigid museum construct.

Protecting and valorizing intangible cultural heritage is a complex endeavor, involving responsibility, dialogue and interdisciplinary collaboration. Let us not forget, intangible heritage is not a "relic" of the past, but a living resource, in constant reconfiguration.

Through appropriate cultural policies, rigorous academic research and the active involvement of communities, intangible cultural heritage can significantly contribute to the consolidation of cultural identity, education and the sustainable development of contemporary society.

In contemporary times, intangible heritage faces numerous risks: accelerated urbanization, migration, cultural standardization, loss of interest among younger generations, and economic and even cultural pressures. These phenomena can lead to the gradual disappearance of some cultural practices or their transformation into a purely spectacular form, devoid of their original meaning.

The protection of intangible cultural heritage does not aim to "freeze" traditions in a static form, but to ensure the necessary conditions for their continuity and

natural evolution. In this sense, protection must be understood as an active, participatory process and adapted to current realities.

Unlike tangible heritage, intangible heritage: is ephemeral, is dependent on its bearers, exists only through practice and transmission, is deeply linked to the life of communities. This specific nature requires distinct approaches to its protection and valorization, approaches that go beyond simple conservation strategies in the restrictive sense of the term.

1.6. Ways to protect intangible cultural heritage

One of the most important ways to protect intangible heritage is to pass it on to younger generations. The family plays an essential role in this process, as it is within it that children learn their first traditions, customs and cultural values. The school also contributes by including elements of traditional culture in educational programs. Extracurricular activities, such as folk dance, crafts or traditional music workshops, help young people understand and appreciate these values.

Another very important way is the systematic documentation of intangible heritage, through: field research, participatory observation, interviews, audio-video recordings, digital archiving, etc.

Documentation should not be seen as an end in itself, but as a supporting tool for transmission, education and valorization. From an academic perspective, interdisciplinary research plays an essential role, bringing together contributions from anthropology, ethnology, sociology, cultural studies and history.

Archiving intangible heritage by recording traditional songs, stories, customs or working techniques, etc. contributes to their preservation even if the practices are no longer as common. Modern technology, such as digital platforms, databases or audio-video archives, offers extensive possibilities for preservation and accessibility. Thus, heritage can be known and appreciated by a wider audience.

Community involvement is also essential. Traditions cannot survive without people who practice them. Organizing festivals, fairs and cultural events helps to keep intangible heritage alive. These events not only promote local customs, but also create a sense of belonging and identity. In addition, they can stimulate tourist interest, which brings economic benefits to the community. Involving tradition bearers in these processes is essential, as they are not only sources of information, but also active cultural actors.

The protection of intangible heritage requires a coherent legislative framework and specialized institutions. Cultural policies must first and foremost recognize cultural diversity, truly support local communities, and know how to avoid the standardization and instrumentalization of intangible cultural heritage.

Cultural institutions and national and international organizations have an important role in protecting heritage. For example, programs to recognize and include traditions in the lists of intangible cultural heritage contribute to increasing

their visibility and protection. Authorities can financially support cultural projects, encourage research, and adopt policies aimed at preserving authentic traditions.

Collaboration between cultural institutions, academia, and communities is an essential condition for the success of protection strategies.

It is also important to adapt heritage to the current context. Traditions should not remain rigid, but can evolve without losing their essence. Integrating traditional elements into modern life, such as using traditional motifs in design, helps to maintain their relevance. In this way, heritage becomes an active part of everyday life, not just a reminder of the past.

However, we must not forget that protecting intangible cultural heritage requires respecting authenticity. Excessive commercialization or distortion of traditions for profit can lead to the loss of their original value. Therefore, it is important that promotion is carried out responsibly, preserving the authentic meaning and significance of cultural practices.

Protecting intangible cultural heritage is a complex process, involving education, documentation, community involvement and institutional support. Every individual has an important role in this endeavor, by respecting and transmitting cultural values. Only through a joint effort can we ensure the continuity of these traditions and the preservation of cultural identity for future generations.

1.7. Cultural and educational valorization of intangible cultural heritage

In educational terms, intangible heritage can become: a teaching resource, an identity formation tool, a means of intercultural dialogue. Cultural and educational institutions have an important role in mediating between tradition and the general public.

The valorization of intangible heritage is not reduced to its economic exploitation, but involves its integration into contemporary cultural life, but here we must talk about knowing how to integrate it, we are not just talking about the desire to integrate it.

From a cultural perspective, valorizing intangible heritage involves not only preserving it, but also actively integrating it into contemporary life. This involves promoting traditions through festivals, cultural events, artistic programs and community initiatives that facilitate access to these forms of heritage for the general public. In this sense, intangible heritage should not be perceived as a static element, but as a dynamic, adaptable system, capable of evolving with society. By revitalizing traditions and reinterpreting them in modern contexts, communities can reaffirm their identity and build bridges between generations.

Cultural institutions, such as museums, cultural centers and non-governmental organizations, play an important role in cultural valorization. They contribute to the documentation, promotion and transmission of intangible heritage through educational programs, interactive exhibitions and research projects. The

involvement of local communities is also essential, the active participation of community members in the valorization process ensures the authenticity and continuity of the heritage.

In terms of education, intangible cultural heritage offers valuable resources for the development of intercultural competences and for the formation of individual and collective identity. Its integration into the school curriculum contributes to contextualized and relevant learning, stimulating students' interest in history, traditions and cultural diversity. Heritage-based educational activities – such as craft workshops, open lessons or interdisciplinary projects – facilitate experiential learning and develop practical and social skills.

Non-formal education also plays a significant role in the transmission of intangible heritage. Extracurricular programs, thematic camps and collaborations with local craftsmen or artists offer authentic opportunities for learning and involvement. These activities contribute to raising awareness of the value of heritage and empowering young people to protect and promote it.

In addition, digital technology opens up new perspectives for the valorization of intangible cultural heritage. Online platforms, digital archives and social networks facilitate access to information and allow the rapid dissemination of cultural traditions. Digitization contributes not only to the preservation of heritage, but also to the creation of innovative forms of presentation and interpretation, adapted to contemporary audiences.

Digital technologies offer obvious opportunities for documentation, promotion and accessibility. Online platforms, digital archives and interactive media can contribute to the visibility of intangible heritage, especially among young people.

However, we must not forget that digitalization also raises ethical issues, related to the rights of communities and the risk of cultural decontextualization.

The valorization of intangible heritage involves certain challenges. In particular, the inappropriate reinterpretation of traditions can lead to the loss of their meaning. Therefore, as I stated above, a balance between promotion and conservation is necessary, as well as a responsible approach that respects the cultural meanings of traditional practices. The role of the ethnologist, the anthropologist is all the greater in this context.

Cultural tourism is one of the most visible forms of valorization. However, it must be approached with caution. There is a risk of transforming traditions into simple cultural consumer products.

We need to talk about a sustainable valorization of intangible heritage, which requires: respecting local communities, involving them in decision-making, maintaining the social function of cultural practices.

In conclusion, the cultural and educational valorization of intangible cultural heritage is a complex process, which involves collaboration between institutions, communities and the educational system. By integrating heritage into everyday life and the educational process, not only its conservation is ensured, but also the

transmission of cultural values to future generations. Thus, intangible cultural heritage becomes an essential resource for sustainable development and for the consolidation of cultural identity in a constantly changing world.

The main challenges of protecting and valorizing intangible cultural heritage are:

- ✓ carefully following the balance between conservation and change,
- ✓ increased attention to the tension between authenticity and adaptation,
- ✓ correct analysis of the relationship between heritage and the cultural economy.

1.8. Alternative ways to capitalize and protect intangible heritage

We believe that Cultural Studies contributes to understanding the dynamics of intangible cultural heritage elements and to formulating alternative models for protection and valorization:

- Placing the heritage-bearing community at the center of the identification, protection, and valorization processes is the essential condition within alternative models. This would allow: increasing interaction with the meaning of the intangible heritage element, reducing the risk of folklorization, increasing community cohesion
- Tracing intangible heritage elements not as "objects", but defining them as dynamic social processes, constantly negotiated. The emphasis is not on preserving an "original form", but on the capacity of heritage to adapt, by preserving elements belonging to a model, a specific code. This would allow: assuming contemporary adaptations of traditions, by accepting cultural hybridization, but also valorizing creative reinterpretations by correctly identifying necessary limits that will distinguish between innovation and invention.
- Intangible heritage will be analyzed as a performative act, existing only through practice. Protection is not done exclusively through archiving, but by supporting the contexts of performance. This involves: encouraging and supporting the social contexts of practice, obviously, supporting and motivating performers (even financially), transmitting practices, crafts through informal learning, through apprenticeship, etc.
- Experimental education plays a very important role in this context. The events organized must be correctly contextualized. There is a major risk of transforming the performed acts into a show, this is where the science that involves in-depth knowledge of cultural patterns and codes comes into play.
- Intangible heritage should be seen as one of the strategies for sustainable local development, while avoiding excessive exploitation. In this regard, for example, traditional crafts can and should be integrated into local economies. It is also very important to cultivate responsible cultural tourism.

This would lead to a reduction in the marginalization of rural communities and would emphasize the social importance of intangible heritage.

- Intangible heritage becomes a platform for cultural and intercultural dialogue. This leads to: reducing local, regional, etc. identity tensions and combating exclusive cultural nationalism.
- The aim is to create a critical digital model for intangible cultural heritage, which involves the creation of co-curated digital archives, with the involvement of communities and performers from the researched environments. The archived elements will necessarily be accompanied by a contextual narrative and the platforms must be interactive.

Therefore, alternative models for protecting and valorizing intangible cultural heritage consider the transition from heritage as an object to be preserved, to heritage as a social process, living practice and critical resource. These approaches contribute to the empowerment of communities and the integration of heritage into contemporary realities. It is not a dead cultural phenomenon, but a living one, through performance, but also through adaptation.

1.9. UNESCO's role in protecting and valorizing intangible cultural heritage

The United Nations Educational, Scientific and Cultural Organization **(UNESCO)** plays a key role in the preservation, promotion and transmission of intangible cultural heritage. UNESCO has a central role in establishing an international framework for cooperation for the safeguarding of intangible cultural heritage. Its main functions include:

1. Development of the international regulatory framework

A defining moment was the adoption *of the Convention for the Safeguarding of the Intangible Cultural Heritage* in 2003. This international legal instrument establishes the fundamental principles of protecting intangible heritage and obliges signatory states to adopt concrete measures for its preservation.

The Convention promotes the idea that intangible heritage is essential for cultural diversity and intercultural dialogue, contributing to sustainable development.

2. Promoting cultural diversity

UNESCO supports cultural diversity as a universal value. Through its programs, the organization encourages respect for the cultural identity of communities and recognition of the value of local traditions.

3. Increasing the visibility of intangible heritage

By including heritage elements on its official lists, UNESCO contributes to their international recognition. This increased visibility helps raise public awareness and mobilize resources for heritage protection.

1.10. UNESCO mechanisms for the protection of intangible cultural heritage

To achieve its objectives, UNESCO uses a number of institutional and operational mechanisms:

1. The 2003 Convention

This is UNESCO's main legal instrument in the field. The Convention provides:

- identification and inventory of intangible heritage at national level;
- adopting protection policies;
- involving local communities in the conservation process;
- international cooperation.

Member States have the responsibility to implement appropriate measures to protect the heritage on their territory.

2. UNESCO lists

A. **Representative List.** This includes elements that reflect global cultural diversity and contribute to the visibility of heritage.

B. **List of heritage elements in need of urgent safeguarding** . This list includes elements in danger of extinction and requiring immediate intervention.

C. **The Register of Good Practices.** This contains examples of effective programs and projects that can be replicated in other contexts.

Registration decisions are made by **the Intergovernmental Committee,** based on the files submitted by the states and technical assessments, including evidence of participation and community consent.

The Representative List of the Intangible Cultural Heritage of Humanity, the List of Intangible Cultural Heritage in Need of Urgent Safeguarding , and *the Registers of Good Practices* — have produced a significant shift in the way living culture is defined, valued, and managed.

2003 *Convention redefines heritage as a living practice, transmitted from generation to generation, constantly recreated by communities and linked to a sense of identity and continuity.*

UNESCO lists are not simple descriptive inventories, but performative mechanisms: by being inscribed on the list, an element becomes heritage on a global scale. The nomination process involves dossiers, justifications, expertise and administrative validations, which transform cultural practices into a language compatible with international norms.

3. Financing mechanisms

UNESCO administers the "Fund for the Intangible Cultural Heritage", intended to support states in implementing protection projects. Funding is granted in particular for:

- research and documentation;
- education and intergenerational transmission;
- revitalizing declining traditions.

4. Monitoring and reporting

Member States are required to submit periodic reports on the state of intangible heritage and the measures taken to safeguard it. This mechanism ensures transparency and accountability.

5. Education and awareness

UNESCO promotes educational programs aimed at raising public awareness about the importance of intangible cultural heritage. Education plays a key role in transmitting traditions to future generations.

UNESCO's impact on intangible cultural heritage

UNESCO's work has had a significant impact globally. Key outcomes include:

- increasing interest in local traditions;
- revitalizing declining cultural practices;
- strengthening the cultural identity of communities;
- stimulating cultural tourism.

However, there are also challenges, such as the risk of excessive commercialization of heritage or its transformation into a tourist product, which can affect the structure of meaning.

UNESCO plays a fundamental role in the protection and valorization of intangible cultural heritage, providing a coherent international framework and effective intervention tools. Through the 2003 *Convention* and its operational mechanisms, the organization contributes to the preservation of cultural diversity and the transmission of traditional values to future generations.

In the current context, marked by globalization and rapid change, the protection of intangible cultural heritage becomes not only a cultural necessity, but also an identity one. Thus, collaboration between states, communities and international organizations remains essential for maintaining this living heritage.

1.11. The role of UNESCO in protecting and valorizing the intangible heritage in Romania

In Romania, intangible heritage plays an important role in the identity discourse, often associated with the idea of authenticity and historical continuity. UNESCO contributes to the legitimization of these discourses through the international recognition of practices considered representative.

However, this legitimization raises questions about internal diversity and the fair representation of different regions and ethnic groups. For example, the inclusion of specific elements may marginalize other cultural forms that are not considered “visible” enough or are not sufficiently known.

Thus, intangible heritage becomes a negotiating ground between national identity and cultural diversity, and UNESCO plays an ambivalent role in this process.

The most important normative instrument aimed at identifying, documenting and protecting intangible heritage is *the Representative List of the Intangible Cultural*

Heritage of Humanity , which includes elements considered relevant to global cultural diversity.

In the case of Romania, several practices were included on this list, such as:

- The Ritual of the Căluş – registered 2008
- Doina – registered 2009
- Horezu Ceramics (pottery craftsmanship) – registered 2012
- Caroling in a male group, Christmas ritual – registered 2013 - joint file with the Republic of Moldova
- Lad's dances in Romania – registered 2015
- Traditional bark making techniques – entry 2016 - joint file Republic of Moldova
- Cultural practices associated with March 1st (Mărţişorul) – registered 2017 - multinational file
- The traditions of breeding Lipizzan horses – registered 2022 - multinational file
- Art of the Traditional Blouse with Embroidery on the Shoulder (Altiţă) – registered 2022 - joint file with the Republic of Moldova
- Transhumance – registered 2023 - multinational file
- Cobza: knowledge, skills and traditional music – registered 2025 - joint file with the Republic of Moldova.

These inclusions are not just symbolic recognitions, but also imply responsibilities on the part of the Romanian state regarding the protection and transmission of these practices.

From a critical perspective, cultural studies emphasize that these selection processes can lead to the hierarchization of cultures and the "freezing" of some practices in a form considered authentic, ignoring their dynamic character.

A central aspect of UNESCO's intervention is the relationship with communities that practice forms of intangible heritage.

From this perspective, in Romania, inclusion on the UNESCO list generated both benefits and tensions.

On the one hand, international recognition contributes to:

- increasing cultural visibility
- strengthening local identity
- development of local and regional cultural tourism
- access to conservation funding

On the other hand, risks arise such as:

- excessive commercialization of traditions
- standardization of practices
- exclusion of local actors from the decision-making process
- transforming heritage into a "show" for tourists

From the perspective of cultural studies, these effects can be interpreted as forms of "patrimonialization", a process by which cultural elements are extracted

from their original context and reinterpreted according to institutional and economic logics.

Another important aspect of UNESCO's role is to stimulate the economic valorization of intangible heritage, especially through cultural tourism. In Romania, many regions have developed promotion strategies based on local traditions, festivals and crafts.

This exploitation can have positive effects, such as:

- revitalization of rural communities
- job creation
- passing on knowledge from generation to generation

However, there is also a risk that heritage will be reduced to an economic resource, losing its deep cultural meanings. Cultural studies draw attention to the need for a balanced approach that respects the autonomy of communities and the authenticity of practices.

In the current context, the safeguarding of intangible heritage faces multiple challenges, including migration, urbanization and digitalization. UNESCO seeks to respond to these challenges by promoting community participation and integrating heritage into sustainable development policies.

For Romania, an important direction is to strengthen collaboration between institutions, communities and researchers, as well as to develop cultural policies sensitive to the local context.

UNESCO's role in protecting and valorizing the intangible heritage in Romania is complex and multidimensional.

1.12. National Commission for the Safeguarding of Intangible Cultural Heritage (CNSPCI)

The National Commission for the Safeguarding of Intangible Cultural Heritage (CNSPCI) is a specialized scientific body, without legal personality, whose main task is to coordinate the activities for the protection, conservation and promotion of intangible cultural heritage. Its activity is carried out in accordance with the cultural policies promoted by the Ministry of Culture and National Identity.

The composition of the Commission includes personalities and specialists in the field of intangible cultural heritage, appointed by order of the Minister of Culture for a two-year mandate, with the possibility of renewal only once consecutively.

The members of the Commission are appointed upon the proposal of: **a)** the Romanian Academy - 5 members; **b)** specialized universities - 5 members; **c)** ethnographic museums - 5 members; **d)** the Ministry of Culture - 4 members; **e)** the National Institute of Heritage - 2 members.

CNSPCI manages the registration of elements in *the National Register* and *the National Repertory* .

- Analyzes files for the registration of elements in *the National Register of Intangible Cultural Heritage* , structured by living elements, elements in danger or extinct.
- Committee members research and organize heritage elements to ensure their survival over time.
- Ensures the organization of sessions to promote the procedure for registering elements in the national register.

The commission's activity falls within the efforts to protect heritage, in accordance with international conventions.

➢ A very important role is played and will be played by *the National Register of Intangible Cultural Heritage,* which brings together the elements of intangible cultural heritage that have continued to manifest themselves until today, integrating into the living repertoire of regional communities in Romania. It is structured in the following categories:

A. List of living elements that make up the intangible cultural heritage existing on the territory Romania;
B. List of elements of intangible cultural heritage in danger of extinction;
C. List of elements of intangible cultural heritage that have disappeared.

The registration of an element in *the List of living elements that make up the intangible cultural heritage existing on the territory of Romania* is carried out in accordance with the provisions of *the Procedure for registering elements of intangible cultural heritage in the National Register of Intangible Cultural Heritage and its updating* , approved by OMC No. 3220/19.09.2024.

List of living elements that make up the intangible cultural heritage existing on the territory of Romania:

- The traditional custom of the Kukeri festival
- Popular processions from the Moisei Monastery on the occasion of the feast of "Holy Mary the Great" (Assumption of the Virgin Mary)
- The pilgrimage from Şumuleu Ciuc
- Traditional Taraf
- Carpathian transhumance, part of traditional pastoral life
- Romanian traditional bat-and-ball game (Oină)
- The hore singing or performing, the hore songs and the hore singers of The Transylvanian Plain
- The violin with horn from the Bihor area – construction and use techniques, musical repertoires and performers
- Memorial hora
- Haymaking: traditional knowledge and practices regarding haymaking from semi-natural meadows, the mountain and submountain areas of the Carpathian Mountains
- Sânzienele and Drăgaica: Traditional cultural practices associated with June 24

- The custom of painting Easter eggs
- Polyphonic singing among the Farserotian Aromanians
- Borangic extraction and processing techniques in the Argeş cultural area
- Traditional yogurt preparation techniques and associated cultural functions
- Utilitarian ceramics by Schitu Stavnic
- The Saint Elijah Tree
- The rafting profession in Romania
- Hem stitching. Techniques for embellishing the hems of traditional clothing items (with needle and crochet)

The role of intangible heritage lists

Beyond the UNESCO level, each state party to the 2003 *Convention is obliged to create National Inventories of Intangible Cultural Heritage* . In Romania, these processes are coordinated by the Ministry of Culture, in collaboration with research institutions and local authorities.

Cultural practices are assessed according to their continuity, specificity and transmissibility. By being included on the list, a practice is often subjected to a process of "purification": forms considered traditional are privileged, to the detriment of contemporary innovations or hybridizations. Thus, heritage can also become a space for selective conservation.

At the same time, communities can internalize heritage status and transform it into a resource for identity and economic affirmation.

The official discourse places great emphasis on safeguarding — protecting practices at risk. Lists are simultaneously protection tools and norming mechanisms. From Pierre Bourdieu's perspective, we can interpret inclusion on the list as the accumulation of symbolic capital, the heritage is converted into a diplomatic, touristic and identity resource.

Intangible cultural heritage in Romania – legislation

- ✓ LAW no. 26/2008 on the protection of intangible cultural heritage; (http://legislatie.just.ro/Public/DetaliiDocument/90098)
- ✓ LAW no. 410/29.12.2005 on the acceptance of the Convention for the Safeguarding of the Intangible Cultural Heritage, adopted in Paris on 17.10.2003. (http://legislatie.just.ro/Public/DetaliiDocument/67740)
- ✓ OMC no. 3612/28.11.2023 for the approval of the Regulation on the organization and functioning of the National Commission for the Safeguarding of Intangible Cultural Heritage (https://legislatie.just.ro/Public/DetaliiDocument/277305)
- ✓ OMC No. 3220/19.09.2024 on the Procedure for registering elements of intangible cultural heritage in the National Register of Intangible Cultural Heritage

CHAPTER 2. DYNAMICS OF THE PROTECTION AND VALORIZATION OF INTANGIBLE HERITAGE IN MARAMUREȘ: THE PERSPECTIVE OF CULTURAL STUDIES FROM BAIA MARE

In the northern part of Romania, Baia Mare and the Maramureș area offer a privileged setting for researching intangible heritage, due to the preservation of living traditions, but also to understanding the rapid transformations generated by modernity and their correct use. We believe that the Cultural Studies Domain, which operates within the Faculty of Letters and the Northern University Center of Baia Mare, Technical University of Cluj-Napoca, also played an important role in this regard.

At the level of this field of study, through the specializations *of Ethnology* , bachelor's level, and *Ethnotourism/Ethnology and Cultural Tourism* – master's level, protecting intangible cultural heritage has meant placing a special emphasis on field research, through the use of direct and participatory observation, through the making of ethnographic films, through audio and photo archiving, etc. An important aspect that must be discussed is the repeated documentation of rituals to analyze their dynamics and to track how cultural "actors" relate to meaning.

For Cultural Studies in Baia Mare, cultural research is at the intersection of ethnology, anthropology and visual studies, being oriented towards documenting local practices such as: rites of passage, winter customs, Easter customs, traditional crafts, rites of help, elements of traditional architecture, etc. The importance of this approach lies not only in preserving these elements, but also in reinterpreting them in a contemporary context.

Direct observation allows researchers to record cultural behaviors and practices in their actual form. The researcher witnesses rituals, daily activities, or community events without significantly intervening in them. Another frequently used method is participatory observation, which involves the researcher actively engaging in community life. The researcher participates in rituals, interacts with community members, and sometimes becomes part of the events being studied. This method is considered essential for understanding the internal meanings of cultural practices, giving the researcher access to information that is not visible from the outside.

A research theme that allowed contact with several communities from Chioarului County and Lăpușului County was that of the rites of assistance.

Here are just a few examples:

The Lenten Gathering Bee – between tradition and modernity , Cupșeni, Maramureș, 25.11.2025

Straw wrapping shed in Preluca Nouă – October 4, 2025 (see https://www.youtube.com/watch?v=QoJJDePgJAM)

The Traditional Corn Husking Bee. PRELUCA VECHE 2024

https://www.youtube.com/watch?v=6iwtM972xHo&t=83s

The Bee between tradition and innovation – case studies, field research:

Traditional communal haymaking, Preluca, Maramureș and Traditional communal reaping, Suciu de Sus, Maramureș, 6 – 22. 07. 2023

https://www.youtube.com/watch?v=alsBnwa174Y

Contemporary views - CLACA LA CĂRBUNARI 2025

https://www.youtube.com/watch?v=IzyqezHWEcU&t=96s

An essential tool in contemporary cultural studies is ethnographic film. In Baia Mare, for those at *Ethnology* and *Ethnotourism* , the making of ethnographic films of the ethnologist's diary type, but not only, has become a real practice. It starts from the idea that ethnographic film offers a complex representation of the intangible heritage, combining image, sound and narration. Unlike written description, it allows the capture of gestural details, but, above all, the documentation of the processuality of rituals. In the case of the ethnologist's diary, the filming is accompanied by the researcher's reflections, offering an analytical and even interpretative perspective on the element being researched.

For the Cultural Studies of Baia Mare, such films become valuable visual archives, documenting traditions that are sometimes in danger of disappearing. Ethnographic film functions as a "living archive" that documents, transmits and promotes the traditions, rituals and lifestyles of human communities for future generations. Through its approach, it encourages intercultural dialogue and interest in lesser-known cultures. Ethnographic film acts as a visual and sound document that keeps oral traditions, rituals and crafts alive , even serving as a historical source. These films overcome geographical and cultural barriers, allowing the exchange of experiences and promoting mutual understanding between different human groups. It also offers a voice and visibility to marginalized communities, allowing them to tell their own story and (re)affirm their identity.

Through moving images, sound and narrative context, ethnographic film manages to convey not only actions, but also the atmosphere, emotions and meanings behind them. Thus, it contributes to their long-term preservation. Film allows the recording of these details, providing researchers and the general public with a complete picture. These materials can be used in education, in museums or in the online environment, contributing to the transmission of cultural values to new generations. Through technology, ethnographic film directly contributes to the digitization and research of local heritage, transforming recordings into educational and cultural resources.

We owe the ethnographic film archive and ethnologist diaries to Prof. Dr. Vasile Florin Pop, ethnologist Daniel Pop, master's student Vasile Chira, and student Firicel Grigor.

Ethnographic photography plays a major role in documenting cultural heritage. The photo archives built following field research in Baia Mare offer a visual perspective on cultural transformations. Photography documents the evolution of traditional costumes, ritual objects, and cultural practices. The photographic

archive thus becomes a tool for diachronic analysis, but also a means of cultural valorization through exhibitions and publications.

Photography therefore becomes a powerful tool for documentation and analysis, as well as for the visual promotion of cultural heritage. Images circulate faster than written texts, are much more easily received by the younger generation, but not only, through exhibitions, albums or digital platforms, drawing attention to lesser-known traditions. Thus, they contribute to increasing interest in cultural diversity and developing a deeper respect for the identity of communities.

The sound dimension of intangible cultural heritage remains one of its least valued components in the contemporary era, dominated by visual culture and the logic of the image. Cultural studies in Baia Mare give it the necessary place for the transmission of traditions, sound – in its various forms, from music and oral narration to ritual formulas and particularities of speech – often marginalized in the processes of documentation and patrimonialization regains its importance.

In this context, field recordings acquire a particular methodological relevance, as they allow the preservation of ephemeral, context-dependent forms of expression that cannot be reduced to simple transcriptions or textual descriptions. Traditional songs, for example, are not just melodic structures and lyrics, but acts of interpretation marked by the timbre of the voice, intonation, rhythm. Similarly, oral stories cannot be separated from the way they are told, from pauses, accents and stylistic variations, which give meaning and authenticity to the narrative discourse.

Moreover, audio recordings capture ritual formulas in their sound integrity, providing access to their performative and symbolic dimension. The recitation of incantations, blessings, or other ceremonial formulas involves a series of phonic and rhythmic conventions that contribute to the effectiveness of the ritual and its community recognition. In the absence of these sound elements, the analysis would remain incomplete, reducing the ritual to a simple textual scheme, devoid of its expressive force.

Another essential aspect is represented by linguistic particularities, dialects, regional accents, phonetic and lexical variations constitute not only elements of cultural identity, but also indicators of complex historical and social processes. Their transcription inevitably involves losses or standardizations, while recording allows the preservation of subtle nuances of speech, offering researchers the possibility of more rigorous subsequent analyses.

From the perspective of Cultural Studies, the use of audio recordings implies an absolutely necessary reflection on the relationship between the researcher and the community, in this case speaking about the rights of communities to control their own heritage.

By systematically integrating this dimension into documentation practices, it contributes to a deeper and more nuanced understanding of intangible heritage, in accordance with its dynamic and performative nature.

When certain practices disappear or undergo significant transformation, these audio, video, or photo materials remain as testimonies of their existence. They become valuable resources for researchers, anthropologists, and historians, but also for members of the respective communities, who can rediscover and revalue their own traditions.

Of course, it is always considered that the representation of communities is done with respect, avoiding stereotypes or distortion of reality. The active participation of community members in the documentation process is important to ensure the authenticity and ethics of the approach. Thus, ethnographic film and photography, audio recordings should not only be instruments of observation, but also of dialogue and collaboration. In conclusion, these methods are seen as indispensable methods in the protection and valorization of intangible cultural heritage.

Here are some examples of ethnologist films and diaries:

The Mask – a journey into the world of imagination https://www.youtube.com/watch?v=OFrVPd6kh8E&t=6s

The Fiddlers of Maramureș

https://www.youtube.com/watch?v=6sw1MGrlUVk&t=680s

The mystery of the unraveled threads

https://youtu.be/PlRC11Xe0d4

Prescura – The Bread that Connects Heaven and Earth

https://www.youtube.com/shorts/xvPuPM2aaUY

An essential aspect of intangible heritage research within the Cultural Studies of Baia Mare is the repeated documentation of the same rituals. This practice allows for the analysis of cultural dynamics, highlighting the influences of modernity and globalization, adaptations to new cultural, social and economic contexts. Repeated documentation offers a longitudinal perspective on culture. This approach demonstrates that intangible heritage is not static, but a living process, in constant negotiation.

Researching intangible cultural heritage through repeated documentation of the same rituals is part of an essential methodological direction for contemporary cultural studies, moreover, as it allows capturing the internal dynamics of traditional practices, beyond their appearance of stability. Unlike classical approaches, focused on punctual recordings or monographic descriptions, the systematic return to the same ritual phenomenon facilitates a diachronic analysis capable of highlighting the processes of adaptation and reinterpretation that take place within communities.

In this sense, ritual becomes a space of intersection between memory and actuality, between normativity and innovation, where social "actors" re-signify traditional elements according to changing historical, economic and cultural contexts. Thus, the researcher no longer operates only as an external observer,

but as a witness to transformation, being forced to integrate into the analysis his own role and the impact of his presence in the field.

Methodologically, this approach involves the use of various tools – repeated participatory observation, comparative interviews over time, visual and audio analysis of successively created archives – as well as a critical reflection on the conditions of data production. The repetition of documentation allows the identification of subtle variations in performance, changes in the discourse of participants and the way in which the community itself conceptualizes its traditions. It also offers the possibility of analyzing the influence of external factors, such as tourism, patrimonialization policies or mediatization, on ritual forms.

From a cultural studies perspective, this strategy contributes to abandoning the search for static authenticity, promoting instead the concept of processual authenticity. Rituals are not "preserved" in the sense of being preserved intact, but are continually recreated through practice.

Repeated documentation of the same rituals is not viewed simply as a method of data accumulation; through its emphasis on temporality, transformation, and reflexivity, this approach provides a complex analytical framework, appropriate for understanding culture as a dynamic process.

As an example for this type of research, we propose documentaries about The Ancestors' Day of Palm Sunday, Easter and Pentecost from the Lapuș County

The Ancestors' Day of Palm Sunday (Costeni, April 9, 2023)
https://www.facebook.com/share/v/1CDv9TZcLM/

Field diary: The Ancestors' Day of Palm Sunday. Costeni. April 13, 2025 https://www.facebook.com/share/v/1aH5wQDK33/

See also *the photo appendix* (photos are taken by Prof. Dr. Florin Vasile Pop)

In addition to protection, Cultural Studies in Baia Mare also contributes to the valorization of heritage through: research projects, educational projects, collaborations with cultural institutions, organization or participation in conferences, workshops, participation in exhibitions, etc. The integration of materials obtained from field research (film, audio, photo) into such projects allows for a wide dissemination of heritage and increases public awareness.

Research projects represent essential "spaces" for the systematic documentation, critical analysis and archiving of living cultural practices. Through interdisciplinary methodologies – combining anthropology, ethnology, heritage studies and cultural theory – these projects facilitate not only the collection of data, but also their contextualised interpretation. Moreover, they create collaborative frameworks between researchers, local communities and cultural institutions, fostering participatory processes in which the bearers of traditions become co-producers of knowledge. Thus, research is no longer an act of data

collection and archiving, but a dialogical one, oriented towards the sustainability of heritage.

Here are just two examples of projects in which the team of teachers, students and master's students from the Cultural Studies Department in Baia Mare have been involved in recent years:

The project "Barn Gates from Chioar (I)" - an initiative that aimed to identify and inventory over 150 barn gates with decorative wooden elements. The project initiated by the City Hall of Copalnic-Mănăștur commune and carried out with the support of the Maramureș County Council, in partnership with the Technical University of Cluj-Napoca, the Faculty of Letters Baia Mare, the Domain of Cultural Studies - Ethnology, the Maramureș County Directorate for Culture and the Maramureș County Museum of Ethnography and Folk Art brought together specialists from several fields who carried out research activities in the 12 villages of the commune, inventorying over 150 barn gates.

Ethnology can be defined as a science of vision, so the project «Barn Gates from Chioar (I)» actually proposed an overcoming of an external view when we relate to folk art objects and an attempt to discover what is beyond the surface. In this context, the lines, the points, the shapes are built in a language that speaks to us about the way in which man understood his belonging to Mother Earth and to the Macrocosm. Barn gates, through their functions: magical, mythical and aesthetic, are able to tell us a beautiful story about who we really are and to discover that depth of the religious man who never feels alone having animals, birds, trees, etc. by his side. (see https://copalnic-manastur.chioar.ro/despre-proiect/ and https://www.youtube.com/watch?v=87AMl5BNrL8)

"ALBA VERNACULAR Summer School": I. The route of the thatched roofed huts on the Transapuseana was organized by the Alba County Council and the National Museum of the Alba Iulia Union between July 20-25, 2025, in collaboration with: Aiud History Museum, ROST Association, Baia Mare North University Center, Faculty of Letters, Baia Mare Cultural Studies-Ethnology Domain, Alba County Directorate for Culture and Maramureș County Directorate for Culture.

Historians, restorers, ethnologists, architects, engineers, master's students and students participated, along with a team from Romanian Television.

Within the project "Summer School ALBA VERNACULARĂ", which involved research and documentation of the thatched roof huts on Transapuseana, the team of ethnologists composed of teachers and students of the Faculty of Letters in Baia Mare and representatives of the Maramureș County Directorate of Culture, as partners of the project, tried to find out the story of these ethnographic artifacts emerging from the mountainside - A story that, most of the time, still keeps them alive, beyond the resistance of the more or less perishable materials from which they are built. We tried to rediscover the enduring connection between man and the fruits of the earth, between man and his animals, in a lifestyle that still

pulsates under these gigantic wooden and straw bells, suspended somewhat between heaven and earth.

Not only the construction techniques were at the center of our attention, but also that mental and spiritual envelope that people make grow with the barns and houses, which surrounds them and protects them from the weather and the times that are changing more and more sharply. In this sense, our interviews and research targeted the beliefs and traditional (and contemporary) lifestyle of this ethnographic area, but also the apotropaic signs inlaid on the beams of the barns and houses, some objects with symbolic and magical charge placed on "guard" next to the animals and grains sheltered in the barns, magical gestures to preserve the "manna", to return it and to defend against the evil eye, the evil eye that we learned about still makes animals and people fall on the street, mowed down and lacking strength under the gaze cast with wonder or malice... The Hex Witches ("Bosorcoaiele") still know how to take the milk or the fruit of the field today.

The world that we discovered here, in some villages in the Râmeț commune, is coming together and still holds its purpose and mysterious meaning closely linked to these tall constructions, in which wood, straw, forest, animals, wheat and rye fields, stone slabs and people stand together.

(see https://www.youtube.com/watch?v=CsDCJNGAz-4 and https://www.youtube.com/watch?v=CsDCJNGAz-4&t=221s)

On the other hand, specialist conferences function as “spaces” for the circulation of ideas, academic validation and negotiation of key concepts in the field. They allow the dissemination of research results, facilitating the exchange of good practices and the comparison of case studies from different cultural contexts. Within these meetings, notions such as “authenticity”, “heritage” or “community” are subjected to critical reflection, which contributes to shaping the theoretical and methodological tools used in the protection of intangible heritage.

The importance of conferences, however, goes beyond the strictly academic dimension. They can influence cultural policies, providing expertise for the development of conservation and valorization strategies. The interaction between researchers, decision-makers and cultural practitioners creates the premises for more coherent interventions. At the same time, the international visibility generated by participation in conferences contributes to the integration of local heritage into the global circuit of cultural values, increasing its recognition and valorization potential.

Here are just a few examples of conferences, symposia and workshops that we have participated in either as organizers, co-organizers, or partners:

International Ethnology Symposium dedicated to the Universal Day of The Romanian Blouse (Ie) and the National Day of Popular Costume – 6th edition, organizers: Ministry of Education, Culture and Research , Institute of Cultural Heritage , Partners: North University Center of Baia Mare – Institute of Ethnography and Folklore, Technical University of Cluj-Napoca , Institute for the

Study of Arts, Folklore and Ethnology “M.Rylski” , Academy of Sciences of Moldova, National Museum of Ethnography and Natural History , University of Political and Economic Studies “Constantic Stere”, Chisinau, State University “Bogdan Petriceicu Hasdeu”, of Cahul, Chisinau, June 24, 2025

International Ethnology Symposium dedicated to Universal Day of the Traditional Romanian blouse and National Day of the Traditional Folk Costume

Popular, organized by the Institute of Cultural Heritage, the Institute of Ethnography and Folklore "Constantin Brăiloiu" of the Romanian Academy; Technical University of Cluj-Napoca, Northern University Center of Baia Mare, Faculty of Letters, Romania; Institute of Research, Development and Innovation, "Constantin Brâncuși" University of Târgu Jiu; "M. Rylskyi" Institute of Arts, Folklore and Ethnology Studies of the National Academy of Sciences of Ukraine; Academy of Sciences of Moldova; and "Bogdan Petriceicu Hasdeu" State University of Cahul, June 20-21, 2024, Chișinău

"The Guardian of the Seed" as a cultural metaphor. Feminine archetypes and their representation in Romanian art. Organizers: Technical University of Cluj-Napoca, Northern University Center of Baia Mare, Faculty of Letters of Baia Mare, Cultural Studies Domain, Fine Arts-Painting Domain, County Museum of Art "Artistic Center Baia Mare", County Directorate for Culture Maramureș, Cultural Foundation "Archeus", Baia Mare, January 15, 2026

Vernacular architecture as a cultural expression: continuities and transformations. Organizers: Technical University of Cluj-Napoca, North University Center of Baia Mare, Faculty of Letters of Baia Mare, Cultural Studies Domain, Maramureș County Directorate for Culture, National Museum of the Union of Alba Iulia, Aiud History Museum, Baia Mare, January 15, 2026

Heritage and Community , 9th edition, Annual Conference with international participation Organizers: Maramureș County Museum of Ethnography and Folk Art, Association of Friends of the Ethnography Museum Baia Mare, Technical University of Cluj-Napoca, North University Center of Baia Mare, Petre Dulfu County Library, November 5-7, 2025

Cultural Heritage and Sustainable Tourism. Elements of cultural heritage during the Easter holidays , Organizers : Technical University of Cluj-Napoca, Northern University Center of Baia Mare, Faculty of Letters of Baia Mare, "Ștefan cel Mare" University of Suceava, Faculty of Economics, Administration and Business Suceava, Bucovina Cultural Center, Ciocănești City Hall and Local Council, Baia Mare Cultural Studies Domain, Ciocănești, Suceava County, April 5, 2025

Conference with international participation Intangible Cultural Heritage in the context of preserving and enhancing the cultural landscape , on the occasion of marking 20 years since the signing of the UNESCO Convention on the Safeguarding of Intangible Cultural Heritage, organizers Maramureș County Council, Ministry of Culture through the National Commission for the Safeguarding of Intangible Cultural Heritage, Technical University Cluj Napoca, Baia Mare North University

Center, Faculty of Letters in Baia Mare, Institute of Cultural Heritage of the Republic of Moldova, event organized under the patronage of the Romanian National Commission for UNESCO, Baia Mare, September 20-23, 2023

In terms of valorizing intangible cultural heritage, research projects and conferences play a complementary but very important role. Projects generate content and documentation, conferences make it possible to disseminate and reinterpret it in various contexts, including educational, museum or touristic.

In a world in constant change, such efforts become fundamental for maintaining cultural identity and transmitting intangible heritage to future generations.

Photography and Cultural Heritage" - Copalnic-Mănăștur, 2024

https://www.youtube.com/watch?v=LY0B7uQG1Fc

Summer School 2023, Prislop, Boiu Mare commune, Maramureș

https://www.youtube.com/watch?v=P0eMgxtFOGY

At the end of this part, I would like to thank my colleagues, teaching staff, lecturer dr. Natalia Lazăr, prof. drd. Florin Vasile Pop, but also the students and master's students with whom, over the years, I have conducted numerous field research, organized workshops, seminars, workshops, summer schools, assuming the role of conserving, interpreting and transmitting the heritage to future generations in a responsible and sustainable manner. The common experience confirms that the Cultural Studies in Baia Mare constitute more than a framework for intellectual training, they have become over time a solidary academic community, founded on mutual respect and a firm commitment to protecting and valorizing the cultural heritage. Special thanks to Daniel Pop, ethnologist, graduate of the Cultural Studies in Baia Mare for the ethnographic film archive built with such skill.

The research results highlight the need for integrated strategies that go beyond simple conservation and promote sustainable forms of valorization, based on community participation, cultural education and interdisciplinarity. In this sense, research not only documents and archives, but also becomes an active instrument of mediation between tradition and modernity. From the perspective of Cultural Studies in Baia Mare, the future of intangible cultural heritage depends on the capacity of ethnologists, anthropologists, current and future, to build coherent cultural policies, adapted to current cultural and socio-economic realities and open to innovation, without losing the local specificity, by (re)discovering that communication code capable of speaking to us about forms of identity.

CONCLUSIONS

In the context of the contemporary era, marked by the intensification of economic, technological and cultural globalization processes, intangible cultural heritage acquires increased relevance both as an expression of cultural diversity

and as a strategic resource for the consolidation of collective identities. The analysis of the role of protecting and valorizing this type of heritage highlights the fact that traditions, social practices, artistic expressions, rituals and knowledge transmitted intergenerationally do not represent simple relics of the past, but dynamic elements, in a permanent process of reinterpretation and adaptation to contemporary realities.

Globalization, while facilitating the rapid circulation of ideas and cultural goods, also generates the risk of cultural uniformity and the marginalization of local forms of expression. In this context, the protection of intangible cultural heritage becomes an essential act of symbolic resistance and the affirmation of cultural pluralism. Intangible heritage contributes to maintaining social cohesion, offering communities stable identity landmarks and a sense of historical continuity, even in conditions of increased mobility and rapid socio-economic transformations.

The valorization of intangible cultural heritage in the era of globalization cannot be conceived exclusively in conservative terms. Contemporary approaches emphasize the need to integrate it into the processes of sustainable development, education and intercultural dialogue. Through cultural policies, creative industries and new digital technologies, intangible heritage can be reinterpreted and disseminated in a way that respects its authenticity, but at the same time allows access to a wider audience. In this way, heritage becomes a vector of cultural innovation, not just an object of passive protection.

ANNEX – THE ANCESTORS' DAY



Photo 1 The Ancestors' Day of Palm Sunday in Lăpuș County, 9 of April 2023



Photo 2 The Ancestors' Day of Palm Sunday in Lăpuș County. Costeni, 9 of April 2023.



Photo 3 The Ancestors' Day of Palm Sunday in Lăpușului County - 28 of April 2024, Costeni



Photo 4 The Ancestors' Day of Palm Sunday in Dobricu Lăpușului - 20 of April 2025



Photo 5 The Ancestors' Day of Palm Sunday in Dobricu Lăpușului - 20 of April 2025



Photo 6 The Ancestors' Day of Palm Sunday in Costeni - 16 of April 2023



Photo 7 The Ancestors' Day of Palm Sunday in Costeni, 2023



Photo 8 The Ancestors' Day of Palm Sunday in Cupșeni, 2022



Photo 9 The Ancestors' Day of Palm Sunday in Cupșeni, 2022



Photo 10 The Ancestors' Day of Pentecost in Groșii Țibleșului, 2021



Photo 11 The Ancestors' Day of Pentecost in Groșii Țibleșului, 2021



Photo 12 The Ancestors' Day of Palm Sunday in Costeni, 2023

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