Historical and architectural monuments of wooden architecture in the territory of historical settlements in Belgorod region

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Abstract. The study analyzes the origin and development of wooden architecture in Belgorod region in connection with the development of the Wild Field on the southern borders of Russia. Volumetric-planning and architectural and compositional features of the preserved wooden heritage buildings were considered: church buildings and residential buildings in large settlements both for poor population and for more prosperous one. The study describes the architectural and compositional construction of temples and residential buildings of different centuries. The authors analyzed the construction periods and the impact of architectural styles that were embodied in the space-planning solution and the design of facades of both wooden churches and residential buildings. Particular attention was paid to cultural heritage sites of regional significance – architectural monuments located in cities of Belgorod and Stary Oskol and villages of Belgorod region. The article presents the research work related to the conversion of a cultural heritage site into a hotel and a museum.

1. Introduction
Historical and natural features of Russia determined the specificity of wooden architecture. Russian craftsmen created a relatively small number of original typical elements and structures to solve different construction problems find to make each building look individual. The main tool of the carpenter was an ax. They made all types of buildings: religious, residential and outbuildings. The scope of carpentry work throughout the entire Russian Middle Ages was really enormous: the chronicles report a lot about construction of wooden fortification cities, starting with the note written under 988: ‘... And men and the best of the Slovenes from the Chrivitches and from the Chuditches, and from the Vyatitches started to ax, and thus inhabited cities emerged’ [1]. This continued until the very end of the 17th century. Many outstanding monuments of wooden architecture, which have always been the most fragile part of the architectural heritage, have not survived to our time. Some of these disappeared due to people’s negligence or misunderstanding of the value of these buildings, some of these were beyond the age limit, and others burned down in numerous fires [2].
2. Materials and Methods
The materials and methods of the study are based on a comprehensive study of the adaptation processes of wooden heritage buildings in the context of changing socio-cultural priorities. The materials studied were archival sources and cartographic materials, materials from museum funds, the current regulatory and recommendatory documents related to assessment of architectural monuments and regulation of their use, including the fundamental one: Federal Law of 25.06.2002 No. 73-FZ (as amended on 13.07.2015) On Objects of Cultural Heritage (monuments of history and culture) of the peoples of the Russian Federation. The study employed a field survey of historical architectural objects. Retrospective analysis and complex assessment of the territory were performed to achieve the objectives of the study.

3. Main Part
The 1580s is the time when the construction of fortresses on the lands of the so-called Wild Field, on the southern borders of Russia started in Russia. The construction of the Belgorod line began in 1635 and lasted twenty years. The lands of the Wild Field were abundant with forests, which provided the main building material. Servants and settlers who carried out all construction works added the features and traditions of their native places into the architecture. Folk architectural traditions determined the specifics of residential and religious architecture in the new fortified cities and adjacent settlements. The fortifications of the fortresses were made of wood, as were all the buildings inside the fortresses, which often functioned as both a city and a prison [3]. Wooden buildings went rapidly to rack and ruin, and were replaced by new buildings. In this continuous renewal, the architectural demands of society also changed, and new architectural and compositional, and volumetric-spatial solutions appeared.

3.1. Temple architecture
In the 18th and early 19th centuries, the architectural styles of stone architecture had a definite impact on wooden architecture. Wooden temples appeared in villages, and their architectural and planning, and volumetric-spatial solution was based on compositional techniques and decorative design of facades borrowed from classicism. The era of eclecticism also was reflected in both cult and residential architecture. At the end of the 19th century and early 20th century, under the influence of Art Nouveau, elements of stone urban architecture became predominating in wooden architecture, in both volumetric planning of buildings and design of facades, which caused the shift from traditional compositional techniques in both religious buildings and residential and public buildings.

A striking example in the list of preserved church buildings in Belgorod region is the most ancient wooden temple of the Prophet Elijah in Verkhossna village built in 1762 in the former border fort that was built in 1637 and 9 years later became the fortress city of Verkhosensky. In 1991–1992, Temple of the Prophet Elijah was restored. Full disclosure of the main structures of the monument during field surveys revealed two main construction periods of the temple building. The first period (from 1762 to the 80s of the 19th century) is characterized by volumetric planning composition that includes a quadrangle with a light lantern illuminated from the north and south. From the east, there was a pentahedral apse, and from the west it was a square frater with beveled corners to the cardinal points. The original volume of the church had a classic compositional three-volume structure. A similar composition of three timber blockings is a distinctive feature of Ukrainian wooden architecture of the 17th–18th centuries. The roof lantern makes it possible to open the space of the temple to the very top, and this is an imitation of stone architecture. The second construction period dates back to the end of the 19th century. During this time, the building was extensively reconstructed, which expanded the temple volume, changed the plan, facades and interiors. The Temple of the Prophet Elijah reconstructed at the end of the 19th century significantly lacked its both architectural and artistic merits of the volumetric composition and the characteristic details in the decoration of the facades (Fig. 1). As a result of all the changes in the temple architecture, it fully resembled a stylized architecture of the 19th century [4].

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Imitation of the architecture of stone buildings made wooden buildings look stone by means of board siding, profiled cornices and fillets, columns, chiseled balusters, and other elements of urban architecture, as well as plastering and painting of facades.

Typical examples of imitation of classicism in temple architecture are such temples as the temple in honor of the Kazan Icon of the Mother of God in the village of Cossack Fox, Church of the Nativity of Christ in the village of Gorki, and Church of the Nativity of Christ in the village of Kryukovo (Fig. 2). The temple in honor of the Kazan Icon of the Mother of God in Cossack Fox village is the most interesting example in both the volumetric planning construction and in the facade design. Built in 1780, it was rebuilt twice in 1834 and 1907. The facades, cruciform in the plan, are covered with wooden siding. Windows are decorated with lining provided with large key stones, in the altar, rectangular windows are completed with archivolts of the arched windows, the light drum is cut through by arched windows, and the facades of the north and south side-chapels are divided into spinners by pilasters. The main (western) entrance to the temple is decorated with a columnar portico. For the temple of the Nativity of Christ in the village of Gorki and that in the village of Kryukovo, characteristic features are both a cruciform volumetric planning composition and the design of facades, which used wooden siding, profiled cornices, imitation of key stones in the design of window openings and column porticos. Column porticos adorn the western facades in the temple in honor of the Kazan Icon of the Mother of God in Cossack Fox village and in the temple of Nativity of Christ in Gorki village. In the temple of the Nativity in Kryukovo village, porticoes are used not only for the western facade but also for the northern and southern facades.
3.2. Residential architecture

The oldest buildings of residential architecture that have survived to this day in Belgorod region date back to the 19th century. These houses are mostly four-sided or five-sided, in which the fifth wall is located not along the house, but across.

They are typically shingle plastered and whitewashed; in the villages, houses covered with reeds can be found nowadays (Fig. 3). The houses of wealthy people in the period of classicism were built with columnar porticoes and mezzanines. In the era of eclecticism, the houses were large in area, two-storey, often the first floor was stone, and the wooden floor was shingle plastered and painted or covered with a wooden siding. Under the impact of Art Nouveau, original residential houses of wealthy citizens appeared that adorned the city in the second half of the 19th century.

![Residential buildings](image1.png)

**Fig. 3.** Residential buildings: a – four-sided house; b – five-sided house

The preserved and most interesting buildings of the classical heritage include the residential house of the magistrate Kurchaninov in Belgorod. The house located on the relief with a slight slope is built on a high stone basement, and there are domestic premises due to the relief difference in the southern part of the basement plan. The house features shingle plastered and whitewashed wooden walls. Large rectangular windows are framed with lining. In the center of the main facade there is a four-column Doric portico with a wooden entablature and a triangular pediment with a large window. High bases are erected under each column. Heating stoves, molded cornices and sockets have been preserved in the house. A fence and massive curbstones for gates with shallow exedra niches flanked by semi-columns are made of brick in stylistic unity with the house.

The house of the magistrate Kurchaninov is an example of ‘wooden’ classicism and is part of the building that formed the spatial urban environment of the 19th century (Fig. 4).

![Residential house of the magistrate Kurchaninov](image2.png)

**Fig. 4.** Residential house of the magistrate Kurchaninov: a – general view; b – house plan. Photo by L.I. Kolesnikova.
Wooden houses with mezzanines are rare in Belgorod region. One of these houses has survived on the Les na Vorskla site located in the vicinity of the village Borisovka, Borisovsky district, on the right bank of the river Vorskla. The history of the house is connected with the Tikhvin Monastery of the Mother of God Dormition, which was founded in 1714 by Count Field Marshal B.P. Sheremetev, the owner of the village. To the north of the monastic complex, across the road, there are several 19th century buildings that belonged to the monastery. Some of them were residential houses of the monastery priests, including the cultural heritage site The house where academician and geobotanist V.N. Sukachev worked in 1934–1941. The house was built in the first half of the 19th century near the road to the monastery. The southern front facade is facing the Tikhvin Monastery of the Mother of God Dormition. The house is a log house without a trace, it was originally plastered and painted. In the 20th century, accretion was made to the northern facade, which distorted the volumetric spatial composition of the house.

![The house where academician and geobotanist V.N. Sukachev worked in 1934–1941.](image1)

**Fig. 5.** The house where academician and geobotanist V.N. Sukachev worked in 1934–1941. Draft design for the reconstruction of a house with conversion of the heritage building into the hotel and museum of academician V.N. Sukachev

The initial volumetric-spatial composition of the house was a symmetrical rectangular building with a mezzanine located above the central part, oriented along the longitudinal axis from north to south. Gable roof mezzanine with triangular pediments to the north and south. The mezzanine is decorated with two balconies: one is at the level of the second floor across the width of the mezzanine, and a smaller one is at the level of the attic. Slightly extended balconies are fenced with carved wooden rapports. The pediment of the mezzanine has a semicircular window, the shape of which is replicated on the front surface of the canopy above the balcony supported by wooden columns with capitals. The canopy over the balcony of the second floor rests on the same columns. There is a large open terrace on the ground floor. Lateral one-story volumes on the western and eastern floors are completed with three-pitched roofs (Fig. 5).

At present, the house is partially used, since the major part of the building is under the threat of collapse. In 2018, the specialists of the Department of Architecture and Urban Planning of BSTU proposed a draft design for reconstruction of this house with conversion of the heritage building into a hotel and museum of academician V. Sukachev [5].

A two-storey wooden house with a mezzanine is a typical example of late classicism, which has survived until the present day, and is an integral part of the building of the monastery complex.

The heyday of the architectural style of Art Nouveau fell on the years 1890–1914. A new trend in architecture embraced not only the capital cities of the Russian Empire but also the cities of the peripheral provinces. Regional differences were manifested in the number of storeys and the choice of materials: in the capital, multi-storey buildings were built of stone, in other places, there were mansions with two or three floors made of wood with a stone basement. The rejection of straight lines and angles in favor of more ‘natural’; lines results in fluid silhouettes and accentuated decorativeness. Art Nouveau house designs employed historical elements selectively in favor of more expressive fashion solutions. In Belgorod region, a few stone houses built in this style have survived, wooden architecture, as less durable, is nevertheless represented by the extraordinary residential house of Kobzev in the city of Stary Oskol (Fig. 6).
The house was built by the merchant M.S. Kobzev for his daughter in 1868 and named *Caprice of Margarita*. The author of the project was N.P. Voikova. Carpentry works were carried out by the Pilyugin brothers from Kazatzkaya, and fretwork was performed by the Gerasimovs, father and son. The hostess of the house, Margarita, organized a salon in the house, and art and cultural figures were invited to the house. The house, located on the south side of the former Lower Trade Square, on a relief sloping to the west, attracted attention not only by its unusual shapes and rich wooden carvings, but also by its bright colors as the walls were painted light green, the decor was lilac, and the roof was covered with orange copper sheets. The house, built on a steep relief, has two floors – a stone basement and an upper wooden one. It is rectangular in plan with a suite-hall layout. The roof is complicated by three volumes in the form of truncated pyramids located above the street corners of the house: the pyramid on the left focuses on the main entrance, the central one shows the location of the ‘great hall.’ All the pyramids are decorated with carved dormer windows. The street facades are divided into three parts by wreaths completed with basement scarps. The scarps are covered with carved pilasters. The windows are decorated with keeled kokoshniks with carved overlays. The facades are completed with a richly decorated frieze. A baluster fencing is arranged along the perimeter of the roof. To date, the upper floor has been dismantled due to the protracted restoration works [6].

The Kobzev house is a unique architectural monument, where the forms of the emerging Art Nouveau are combined with the techniques of Old Russian architecture. It is the only example of a wooden house built during the transition period from the Russian Revival to the Art Nouveau style that has survived in Belgorod region.

4. Conclusion
The study showed that the majority of historical and architectural monuments in the historical settlements of Belgorod region that have survived until the present day were built in the period from the 19th century to the beginning of the 20th century [7]. Thus, the study of wooden heritage buildings in Belgorod region yielded the following conclusions:
1. The oldest peasant and city houses survived until the present day were built not earlier than the first quarter of the 19th century.
2. A great number of four- and five-sided houses were shingle plastered to insulate the walls, since by that time Belgorod region was short of good timber for mass construction.
3. Many of the houses of this type are still covered with reeds in the villages.
4. Residential houses of prosperous citizens built from timber were insulated not only with shingle plastering but also with felt. Roofs were covered with tiles, which have now disappeared.

**Fig. 6.** Residential house of Kobzev: a – front facade; b – south-eastern side of the house.

Archive photos
5. At the end of the 19th century, copper or black sheet steel was used as roofing material in the houses of prosperous citizens, which was usually painted green to give buildings an elegant and festive look.

6. The majority of the wooden churches date back to the 19th century, much less number – to the 18th century.

7. In course of time, the buildings of the temples were restored, which often changed their original appearance, the facades were decorated with elements characteristic of fashionable style trends borrowed from stone architecture, which brought features not typical of wooden architecture.

For preserving heritage sites, the study of wooden heritage buildings and their restoration are of practical importance to consider the local architectural features, which must be taken into account during monument restoration. The analysis of volumetric-planning, volumetric-spatial solutions and methods of decorative design of facades of wooden heritage buildings made it possible to systematize them, identify characteristic changes in their historical development, designate their characteristic features and, in this regard, to prepare the ground to solve problems of modern restoration.

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