

## **Building Archaeology of the Secular Architecture of the 10<sup>th</sup> – 11<sup>th</sup> Century Kyivan Rus' Town**

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The nature of the secular architecture of the medieval towns of Kyivan Rus' has always attracted researchers' attention. The first conclusions concerning the types of buildings erected in early medieval Kyiv were made by Vikentiy Khvoika at the beginning of the twentieth century. According to a short publication, the excavations of 1907 – 1908 revealed remains of almost 20 structures – interpreted by the author as dwelling houses - in the central part of Kyiv's Starokyivska Hora (Hill). As the author notes, the buildings were made of thick wooden logs, were mainly sunk into the ground, and projected only slightly above the ground surface (Khvoika 1913, p.73).

After many years, we can assume that the objects which Khvoika had excavated were not the remains of architectural constructions of early Kyiv, but pre-Christian burial complexes with barrow chamber graves. Before a barrow mound was heaped, a foundation pit was excavated. The area of such a foundation pit sometimes exceeded 10 m<sup>2</sup>. Its walls were supported by wooden pole construction, or more rarely with log construction. The structure also had some form of covering.

Nevertheless, Khvoika's opinion became firmly rooted in researchers' minds. Even such a thoughtful researcher of Kyiv as Galina Korzukhina, while interpreting Khvoika's excavations, concluded that pole-frame construction was the technology utilized in early Kyiv buildings (Korzukhina 1956, pp. 322 – 329). Mikhail Karger was also firmly convinced of the predominance of pole-frame construction in Kyiv as well as in the whole Middle Dnipro region. On this basis he formulated a scientific concept, the main object of which was the image of "semi-dugout" Kyiv (Karger 1958, pp. 348-149).

A result of recent excavations of Starokyivska Hill was the collection of new data and formulation of new conclusions which finally refute these early interpretations of Kyiv's early medieval architecture. First, they remind researchers of the fact that starting with the ninth century and throughout the entire tenth century barrow mounds reaching a height up to 5-8 meters and diameter up to 25 meters had been the prevailing man-made constructions on this territory. The groups of barrows were scattered on the picturesque plateau still covered with remains of the ancient oak forests, which according to written sources served as holy groves for the pagans.

In 1988 – 1989, excavations under the direction of Yaroslav Borovsky in the southeast part of "Vladimir's Town" near the edge of the defensive ditch which encircled the town in the early eleventh century uncovered three square pits which were the remains of burial chambers containing

cremations, and also three more oval-shaped or apse-shaped trenches similar in depth and size to the burial chambers to suggest that they too had served those functions. The fill of the graves contained finds typical of burial complexes of the ninth – tenth centuries, which were called “retinue antiquities” in the scientific literature (Borovsky 1993, pp. 3 – 33). Based on these findings, the long-standing confrontation between the adherents of the “semi-dugout” model and the proponents of the log house character of Kyiv’s early architecture came closer to its conclusion.

The commencement of excavations in 1971 on the territory of the Lower Town – the Podil District - and their continuation through annual investigations of additional sites in Podil have provided the critical information for finally solving this problem. As a result of deep and extensive excavations and remarkable preservation of wooden architectural elements in intact archaeological contexts dating back to the ninth century, archaeologists have managed to accumulate data on the largest collection of wooden building types assembled of secular medieval town architecture of Kyivan Rus’. In addition, the surviving deep stratigraphic sequences beneath the surface of Podil (extending to a depth of approximately 10 m to 12 m) document fourteen episodes of the destruction and reconstruction of all or large portions of the settled urban area of Podil between the ninth and twelfth centuries. These calamities were largely the result of heightened seismic activity, frequent flooding of the Dnipro River, and episodic erosion of the hills to the west of Podil during this period. A new understanding has been established in scientific circles of the nature of dwelling-household complexes of the Podil district as mostly represented by one- and two-chamber log houses (Hupaló 1981, p. 85). While timber-framed construction was known to early medieval Kyivan builders, it was used only as a subsidiary technology and had never been the dominant basis of secular construction. This became clear after Viktor Kharlamov had analyzed all the excavated buildings from an architectural point of view. Thus, log construction was clearly the accepted method of building in early Kyiv and the technology upon which the mass urban secular development of Kyiv was founded. The rate of development of the Podil district, a formerly virgin place between the hills to the west and the bank of the river to the east, is striking. From the late 880s until the end of the 930s more than 100 hectares of the riverside territory were developed (Sagaydak 1991, pp. 48 – 65).

A survey of the building technology of early Kyiv must begin with the analysis of foundations. Builders have always paid great attention to the construction of foundations. The simplest method of its construction consisted in preparing a special ground platform, which was built-up with soil, flattened, and tamped in order to make the surface even (**figs.1/1, 2, 3**). The next step was equipping the flat horizontal platform with an additional wooden construction which would prevent the whole foundation from sinking. This construction was often made of planks placed edgewise along the perimeter of the platform and fixed with vertically-driven stakes. The earth platform arranged in such a way was elevated above the surface of the homestead to the boards’ height (**figs.1/1a, 3a, 5a, 6a, 8a**). Sometimes the planks supporting the platform had through-holes, obviously serving for water drainage, which prevented the lowermost course of wall logs from rapidly decaying

(**figs.1/2a, 5a, 7a**). In some cases, the platform was enclosed with planks along the perimeter both outside and inside. Deeper study of the so-called batter board of the foundation platform allowed researchers to refute the opinion that in early Kyivan construction of the tenth – eleventh centuries the planks of the batter board were not joined to each other at the corners and were not joined to the logs of the timberwork with the help of notches. It turned out that the builders used such methods starting with the first stages of building in Podil. A notch interlocking the batter board with the timberwork corner was discovered in one of the earliest Podil log houses (**fig.4**) built in 913 (dated through dendrochronology).

To support the ground platforms, the builders used round logs similar to those used in the walls of log buildings (**figs.2/1a, 3a, 5a**). Another method of preparing the platform for constructing a log building lay in weaving a wicker fence to a height of 20 – 30 cm above the ground surface and then filling this enclosure with earth and tamping it down (**figs.2/1, 3**). As a rule, the most comprehensive preparation of the ground platform was made under the main log building which served as a dwelling. Subsidiary buildings used for storing goods were often built directly on the ground surface.

The next stage of building was the arrangement of the foundation over which log walls were raised. Foundations were made of round, barked logs of varying length (50 cm – 80 cm in diameter; 1.5 m – 2.5 m in length), differentiated according to their position beneath a wall. The dominant method of foundation support was to place the support logs on the ground horizontally (one end was usually sawn and the other chopped with an axe so that the log obtained a cone-shaped form). They also varied in their location: under walls and corners or under the log joists of the floor. The number of foot blocks laid under logs depended on their length. Sometimes a sort of horizontal foot block made of board off-cuts was used. These were usually laid transversely to a wall along at intervals of about 30 cm to 50 cm and in some cases in combination with foot blocks of other types (**figs.2/2a, 4a**); (**figs.3/1, 2, 1a, 2a**).

A type of vertical foundation supports was used in buildings serving as storehouses. The so-called “chairs” (a kind of foot block) made of sawn blocks underpinned both the interlocking corners and the walls. A special depression or shallow pit was made in the ground for such foot blocks. In some cases, the northern corner of a log house rested upon a support placed vertically and the opposite corner rested upon a stone (**figs.3/1b, 2b**). Sometimes a bigger foot block was added with a smaller one set atop; the smaller one also had a notch forming a joint with the log above.

Another method of creating foundations was widely used in the early medieval building technologies of the Podil district. It can be recognized to be the most rational method, as it did not require any additional expenses. A new building was placed exactly on the place of the previous building, on the uppermost surviving log courses of the previous building that were level with the new earth fill within the older structure. The log walls of the destroyed earlier structure served as

supports for the lower log courses of a new log building. If the new log building turned out to be smaller than the previous structure, then one or more of the corners had to be placed directly on the ground, or the flooring or the log joists of the previous building were used for this purpose (**figs.5/1, 3**). When builders used the walls of the older (inwashed with soil) buildings as foundations, the remains of such buildings projecting above the new ground surface were demolished and reused in the building of the new structure. As a rule, new buildings were cut into the infra-laying ones by the means of special notches (**fig.4/7, 8**). Sometimes the builders used another technique - before erecting a new building special foot blocks were placed atop the corners of the old buildings covered with soil.

Foundation platforms in the early buildings of Kyiv consisted of the following types:

### **Type I**

- A. Earth platform with tamped surface.
- B. Earth platform supported by a wooden construction consisting of:
  - 1. planks set edgewise and fixed by stakes from the outside;
  - 2. planks jointed in the corners by the means of a special notch;
  - 3. planks placed edgewise and fixed by means of stakes driven into the ground and also jointed to the part of a corner of the timberwork with a special notch with the log ends extending beyond the joint.
- C. The ground encased with blocks and logs.
- D. The batter board of the platform made of wicker fence (wattle).

Log wall and floor joist supports consisted of the following types:

### **Type I**

- A. Horizontal foot blocks made of:
  - 1. off-cuts of thick logs of different length (0.30 – 0.60 m; 0.60 – 2.20 m);
  - 2. processed logs or blocks put in one or more tiers;
  - 3. processed logs put in a trellised way;

### **Type II**

- A. Vertical foot blocks made of:
  - 1. round logs placed under the corner blocks;
  - 2. logs placed under the corner blocks in combination with a stone placed under the corner block;

### **Type III**

- A. Remains (elements) of previous buildings filled with soil used as foundations of a new building.

### **Type IV**

- A. Combined foot blocks, which included combination of the types, mentioned above (**figs.3/3, 3a, 2b**).

The primary element of log house architecture is the wall. For construction of vertical walls, straight round logs of the same size and approximately the same diameter were selected. It is natural, that even under the conditions of an abundance of forest resources, such tasks were not entirely simple. The raw material for the future building should have been not only thoroughly selected, but also brought up to the mark. The earliest buildings of the Podil district of Kyiv show that the early builders acquired a high level of knowledge of the technology of this architectural construction. The logs were thoroughly hewn from every side; their diameter (especially in the dwelling buildings) was perfectly adjusted. In those cases where there was a lack of logs of the same thickness, compensation was made due to the size of the “cup” - the notch by means of which the corners of the building were joined. In addition to the selection of nearly identical logs, it was necessary to alternate the tops and the butts of the logs in successive courses in order to keep the walls level. The log dwellings of the Podil district were built in the technique of “v oblo” jointing - a “cup” notch was cut into the top of the underlying log (**fig.4/1**). The main requirements of a well-built wall were the tightness of the logs and steadiness, to a great extent dependent upon the accuracy of notching a “cup”. Notches cut too deep were corrected by insertion of two wooden shims set across the notch perpendicular to each other and joined with a wooden peg (**fig.4/3, 4**). Steadiness of the wall was improved by a simple technique: the projecting ends of the lowermost courses of logs were left longer than the logs above (**fig. 4/2**).

The surfaces of the foundation blocks' could also be processed and adjusted. The “bed” block was occasionally trimmed further, sometimes to a “cup-shaped” hollow along the whole length of the block. Besides the processing of the outer surfaces of the logs, consolidation of the construction was made by means of special fillers of moss or sometimes of birch bark applied to the gaps between the logs.

The selection of logs for outbuildings was less accurate. The lower courses, ground sills, and sleepers were made of the thickest logs, and in the process of laying the upper courses, thinner logs were used. The assemblage of such construction could have taken place right in the yard of a homestead. Frequently the preparation of the logs was done in advance, possibly off-site, which is confirmed by symbols cut into the logs, marking the numbers of the logs. Logs of large diameter

and length used for the construction of residential log houses (or possibly repair) were occasionally processed at the site, evidenced by large quantities of wood chips found around and inside the building.

In the process of construction, the builders often had to join two logs to achieve the necessary length. If it was a lowermost log or ground sill the logs were joined together with the help of a bidental notch fixed with stakes driven into the ground. When lengthening the logs of a wall the joinery was accomplished by cutting a simple right-angled notch and fixing the two parts with a wooden peg.

The height of the walls to a great extent depended upon the thickness of the logs. In residential log buildings the diameter of the logs was usually from 18 cm to 30 cm; in household service buildings the diameter was 10 cm to 15 cm. In general, only round, pine, logs with their bark removed were used. A single case in residential log construction of the Podil district has been documented where along the entire perimeter of the structure one course was made of oak logs shaped in octahedral form. Logs of the fir tree were mainly used for the upper parts of buildings.

Questions concerning the height of log buildings of the medieval towns of Kyivan Rus' are the most difficult to answer reliably. However, in recent years, researchers applying methods and principles of building archaeology have extensively studied cliff-side dwelling-defensive complexes of the ninth to fourteenth centuries of the Carpathian region of Ukraine which were built using log construction technology. Their findings are extremely trustworthy, since the height of the buildings is indicated by the presence of a system of channels cut directly into the rock faces of the cliffs and stone outcrops. In Tustan' the height of construction in the earliest phase did not exceed 2.16 m; in the next tier it had reached a height of 3.5 – 3.74 m (Rozhko 1999, p. 418). With regard to the log buildings of Kyiv, it should be noted that household outbuildings generally did not exceed 2 meters in height, while residential log houses, which had two functional tiers (podklet - a cellar or ground floor and a residential level) could reach 3 meters in height and even higher. Another question, which still has not been adequately answered, concerns the presence of clay daub on the log walls. Initial conclusions by researchers that the log houses of Podil lacked clay daubing can be refuted by the finds of clay blocks containing the impressions of wooden walls (Hupalo 1981, p. 139). Nevertheless, such finds are very rare, but they do allow stating that some Podil buildings were daubed.

The main rooms of dwelling houses generally had floors made of wide, riven boards. Their width ranged from 20 cm to 40 cm, and their thickness from 4cm to 5 cm. In some cases, the floors were laid directly on the earthen platform (**fig.4/5, 6**). The floor boards were tightly fitted to each other, and fixed to the ground by means of wooden stakes. More often, the floor boards rested on log joists. Frequently the joists were laid directly on the ground and sometimes they were not connected with the walls (**fig.2/1**); sometimes they were cut into the log courses of the building

(**fig.5/1c, 2c**). In the buildings of the Podil district, the tight joint was more often used than the through joint. Sometimes the log joists divided the internal space of a building into larger and smaller parts; appropriately, long and short boards were used. In buildings that were square in plan, a log joist was put in such a way that it divided the building space into two equal parts. Occasionally the log joist was cut with a longitudinal notch with the depth of the notch corresponding to the thickness of the edge of the inlaying board. Sometimes the notch was made only from one side of the log joist (**fig.5/1b, 2b, 3b**). The distinguishing feature of log joists laid on the ground without joining to the walls was a canting which allowed a better contact with the ground and tighter joining of the planking. In the constructions of Podil district two forms of flooring have been recorded: the more archaic one is without mechanical connection between the floor and the wall (the flooring was laid directly over the earth), and the developed one, where the floor was connected with the wall through the floor planks, which were butted against the inside of the wall. During the reconstructions of the buildings, people tried to raise up the floor level; for this purpose, a new log joist was laid. Usually the log joists were cut into the notches made in the lower log courses. In such a way, the floor planks were placed between the first and the second log courses. The most perfect technological system of flooring was applied by builders in log house 8 on the plot of Red Square (**fig.5/1a, 2a**). The flooring was laid parallel to the long wall and was fastened through the punched holes extending outward beneath the lowermost course of logs and exterior walls. Floor planks laid on the log joists were also laid between the first and the second courses of logs. In this way, a firm connection was created between the floor and the walls, which produced a positive stabilizing effect on the entire building.

The interior arrangement of the log houses of the Podil district is always conditioned by the positional relationship between an entrance and an oven. Single-room (one-chamber) buildings make up approximately half of the whole number of the discovered log houses. Their areas vary from 16.8 sq.m to 30.8 sq.m. Unfortunately, in this type of building entrances were rarely found in situ, a consequence of the specific ecological conditions of the Podil district that led residents to raise them above the ground level as high as it was possible. In order to define the position of entrances researchers tried to use a wide range of data, including the secondary ones: the floor planks' and log joists' direction, the character of homestead planning, and the presence of a street or an alley nearby, and so on. Observations allowed singling out some patterns of the relationship between the entrance and the oven. Ovens were usually placed in one of the corners nearest to the entrance.

This relationship is observed both in one-room log houses and in the so-called "five-wall" log houses (Hupalo 1981, p. 142). This type of building had an interior logwork wall which divided the inner space into a larger room (usually square in shape) and a smaller room. An oven was usually situated in the right corner near the entrance of the larger room. The oven was a round- or oval-shaped construction made of clay. The measurements of the inner diameter of ovens varied from 0.6 m to 1.2 m; the width of the mouth was up 40 cm. The oven was usually placed on a sand

platform (“pillow”) 10 – 15 cm in height. The base could have been laid with gravel, fragments of brick-plinths, or broken pottery, after which it was covered with a layer of pure clay 3 – 5 cm thick. Along the perimeter of a horseshoe-shaped base a wooden wattle frame was installed, serving as a carcass for tamping the walls of the oven with clay. In some heating constructions, 4 – 5 layers of clay daub have been found which indicate the regular repairs of the ovens. Very often, the daub contained crushed pieces of pottery.

A very rare type of oven used in Podil buildings was square in plan (**fig.4/5**). The example recovered measured more than 2 meters in length and 0.8 m in width. Among the collapsed debris of burned clay wooden corner poles up to 10 cm thick were found. This construction suggests that such ovens were placed on a wooden platform raised above floor level. Analogous heating constructions were discovered during the excavations of old Novgorod (Zasurtsev, 1963, p. 29). It is postulated that clay fire baskets were placed in the upper part of the ovens of medieval Rus'. Such evidence has not been found in situ, but the recovery of abundant fragments of fire baskets suggests that they were quite widespread. An intact example of a fire basket was found during the excavations of a homestead on Shchekavitskaya Street in Kyiv; it was rectangular in shape, measured 80 cm by 60 cm, and had sides 4 cm high.

The question of chimneys in the log houses of the Podil district remained unresolved, presented only on the level of hypothetic reconstructions. According to the most widespread opinion the majority of secular buildings did not have a chimney and smoke filled the room, exiting through doors or windows to the street. This method of heating is called “black heating.” Nevertheless, some researchers insist that the richest buildings were equipped with chimneys. In one case, archaeologists have discovered remains of a clay pipe inside a log house, which could have served as a chimney (Hupalo 1981, pp 143 - 144). Thus, the second opinion seems to be more preferable as it is confirmed archaeologically.

The discovery of ovens with the mouth turned towards the entrance provides grounds for a supposition that the end surface of a sleeping platform (staging) was adjacent to the stove, and its flank was adjacent to a sidewall of the log house. This particular arrangement was found in several Podil log houses. It is clearly seen on the plan of log house 1 from messuage B, which was excavated in Kyiv on Zhytnetorgskaya Square (**fig.2/1**). From the flooring, it is seen which part of the dwelling was vacant, and which one was used for heating and rest. It is interesting that the same principles of space division were used not only in “five-wall” log houses, but also in one-room log houses with ovens, which must indicate the continued tradition of the interior arrangement. Some researchers suggest that the closest analogies of such division of the internal space have been met in the chronologically synchronous buildings of the western regions of Kyivan Rus' (Hupalo 1981, p. 126).

In some log houses dating back to the eleventh century an oven was placed in the left corner in



relation to the entrance into the “five-wall” log house (log house 67 excavated on 16 Voloshskaya Street), or an oven could have been placed in the central part of the big room of a log house. In some cases the oven was enclosed with planks set edgewise and fixed with wedged stakes. Such construction allowed raising the oven’s base above floor level and thus created space in front of the mouth of the oven where a wattle and daub chimney flue could have been placed.

Archaeological excavations in Kyiv gave much information about the construction of entrances into secular buildings. As a rule, a “five-wall” log dwelling house had two doorways. The first door was situated in the wall of a small room-hallway (*siny*) leading into the yard. The door opened inwards, which according to the opinion of some researchers was connected with the necessity of leaving the house when snow was drifted up against it. It could have been also conditioned by the circumstances which could emerge after sand and silt inwash during floods. In order to protect their dwellings from such natural disasters Podil builders raised doorways at least to the level of the second course of logs, but in most cases the doorways were arranged on the level of the fourth course. The second door leading from the living room into the hallway (*siny*) opened outwards, conditioned by the considerations of fire safety.

The width of doorways varied from 0.65 m to 0.78 m. In some cases, a longitudinal channel was cut into one quarter of the log from the side where the door opened. Sometimes the channel or rabbet was cut into the whole width of a log; when applying this method another additional (narrow) rabbet was cut into the bigger rabbet. This was intended for setting a thin, trimmed board serving as a prop for a door leaf. At a distance of 1 – 2 cm from the rabbet’s edge, a round hole was cut in for installing a door bonding dowel (**fig.6/1a, 2a, 3a**). That technique of setting a door is known as “on a heel.”

Besides the widely used “heel” method, Kyivan builders constructed doors fastened by means called “bearing.” Some of the excavated door surfaces contained not a round dowel in their end, but a rectangular one (fig. 6/1d, 2d, 3d, 4d). This form of dowel suggests that a door leaf was fastened to the wall opening by means of a wooden bearing pole, which could revolve on its axis.

Another type of door was also discovered in the Podil district. As in the previous variants, a door leaf was made of wide trimmed boards, which were joined with transverse laths by means of pegs. The edges of these laths extended beyond the door leaf from one side and were pegged down to a round log, which was set parallel to the door boards. The lower edge of the log was cone-shaped and in such a way served as the door’s support and simultaneously as its axis. Door butts which fastened the door to the door framing or to the logwork wall could have been attached on the edges of the transverse laths (**fig.6/1, 2**).

Doors were remarkable for their variety. During the excavations on Red Square in Kyiv, a type of door was discovered which allows reconstructing it as a door consisting of two thick side beams,

connected into a frame by means of longitudinal notches. Such a door could have been joined to the wall with the help of the construction described above (**fig. 6/1c, 2c, 3c**).

In front of the entrance into the building a wooden stair and a shed resting upon additional poles were constructed. The roofing of this shed as well as of the whole roof of the log house were made of planks. The construction of the covering consisting of planking rested against the board surface, which in due time was supported by the planks-“kokoshniki” (Hupaló 1981, p. 133).

In those cases when a living space of a log house was lifted up on the level of the fourth log course or even higher, the construction of the threshold was more complicated. It could have consisted of flooring laid before the door throughout the whole width of the hallway (siny). The poles dug into the ground, which at the same time played the role of supports both for the threshold and for the shed over it, supported the flooring. One end of the wooden staircase was adjacent to the threshold, while the other rested against the ground (**fig. 6/1f, 2f, 3f**). Judging from the incline of the staircase ramp, log house 13 excavated on Zhytnetorgskaya Square could have had its door at the height of 1.3 – 1.5 meters above ground surface. A gallery adjoining to the log house from the north was constructed by means of a system of posts set into the ground at the eastern facade of the building. A sill for a staircase consisted of a thick horizontally-laid log fixed by two wooden stakes driven into the ground. The attachment of the staircase to the sill log was carried out through two mortises where the ends of the beams were set in. The beams formed a ramp which was inclined from the flooring on the doorway level towards the ground.

The majority of Podil dwellings of the tenth – eleventh centuries consisted of three main parts: “podklet” (ground storey), living storey, and a loft. During the excavations in 2003 on 39 Khorevaya Street, a sizable log house was discovered. Unfortunately it was not excavated along the whole of its perimeter as it was situated directly under the foundations of an existing early twentieth century house. However, its south-eastern facade was excavated and revealed a staircase leading to the “podklet”. (**fig. 6/1g**). The ramp of the staircase was set in a specially dug pit (1.3 m in depth). The walls of the pit were formed with trimmed logs laid lengthwise. The lowermost pair of square-shaped boards was joined to the ground by the means of wooden stakes driven through holes cut into the boards in their central part. The mentioned square notches (“cups”) could have served for laying log joists used as support for the flooring, which has not survived. The upper part of the staircase was made of round logs, which were laid directly on the ground surface. The outer ends of the logs were bound with a log placed across the blocks and joined with them by means of a “cup.” With its other end, the upper pair of logs was cut into the wall of the log house. Between the lower and the upper pairs of logs, wide planks were set edgewise. They were pressed to the ground walls and prevented them from falling. Part of these planks could have been a door leaf formerly which is evidenced by the holes for fastening the transverse laths.

The steps of the staircase were made of slabs 1.1 m in length, which were partially resting upon the

ground and partially upon the beam supports driven into the ground. The steps were fastened to the ground with square-shaped stakes passing through mortises of the same shape. In front of the entrance to the staircase, flooring made of wide planks was laid. Close to the wall of the log house, roof remains were found. The roof was made of planks laid parallel to the steps.

This massive construction indicates the important function of the entrance leading into the “podklet” (ground floor premises) of the building. The ground floor of the building evidently played a role of storage, which is indicated by the fact that the exit led to the artisan part of the homestead (workshop) where tanning production took place, evidenced by the presence of special tanning vats.

The builders attached great significance to the arrangement of entrances. They are differentiated according to their functionality. Some of them were used for exiting to the central part of the yard and further into the street; others led to the ground floor storage premises or were used for exiting to that part of the homestead where the artisan workshops were situated.

During the excavations in former Geroev Tripol’ya Street (present Spaska Street) the remains of galleries were uncovered. Their direction can be reconstructed from the series of almost identical thick poles (20 cm) in each of which identical vertical notches were made. In a lower part of each notch, a beam was set (8 cm in diameter) with semicircular fluting along the full length of the upper part. From the upper part of the beam, this construction was tight with split boards, the lower edges of which were laid in a channel-like beam and the ends were passed into the mentioned notches of the poles. In the upper part of the wall boards, holes were made. This construction is of special interest, first of all because it is a vivid example of pole construction; secondly, it is striking in its sizable measurements. The length of one of its walls made up more than 10 m and the width of the building was more than 6 m. These data indicate an unusual functional character of the building. This supposition is confirmed by the fact that the excavations held in 2003 by Kyiv Podil Archaeological Expedition in the north-eastern part of the same quarter uncovered the remains of a wooden, one-apse Christian church - the oldest in the history of excavations in Kyiv.

The big log building dating back to the mid-tenth century and enclosed with a gallery on the minimum of two sides could not have been just a simple ordinary message building. It pointedly has pretensions of being something else, perhaps even a cult building. We should note in this connection that in North European towns a message lay-out usually included special ceremonial halls, in which some traditional rites (ceremonies) took place. Such a wooden hall, as the representative part of a message, together with a living part which included a kitchen, workshops and stores zones, was the main constituent of town yards in such towns of Northern Europe as Trondheim, Oslo, and Sigtuna. The presence of such buildings in the Podil message raises questions about where one should look for analogous connections.

However, it is too early to speak about analogies, as the differences are conspicuous. First, this

Podil building employs log construction of the main walls, with only the bypass gallery built with the help of pole construction - incidentally, very similar to those which were used in Scandinavia. The second difference lies in the different layout of the buildings in the homestead. The hall is tightly adjoined to the street directed towards the Dnipro River, whereby the free inner space of the yard was created. The same can be said in relation to the church, which according to its plan and situation in the structure of the homestead layout may be interpreted as a typical parish church.

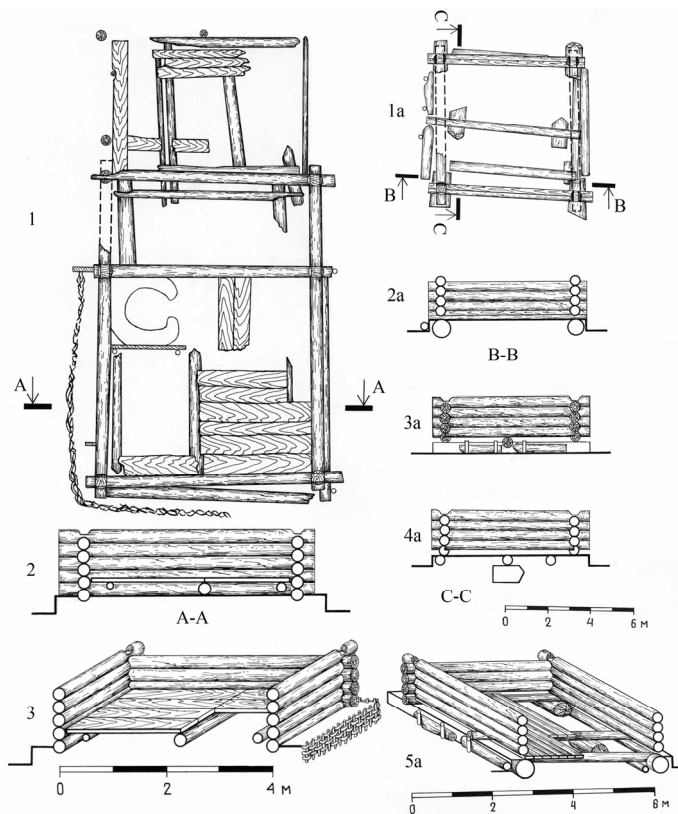


Figure 2. Foundation platform supports – logs and wattle fences..

On the Zhytnetorgskaya Square of Podil, situated at the foot of Zamkovaya Hora, the remains of the entire urban quarter were excavated. The quarter consisted of the messuages marked with letters A and B (fig. 7). Messuage B is the most thoroughly studied. It was a typical Podil messuage, in which the most characteristic features of civil building of the tenth to eleventh centuries are reflected (fig.7/1). The messuage consisted of four buildings, which including a cellar were set along the perimeter of the messuage. The log dwelling house was situated in the northern corner of the homestead, tightly adjoining with its sides to the fence. The gateway was situated in the southern corner of the messuage. Near the entrance to the messuage, flooring was laid resting on

two parallel board joists. The flooring led to the entrance of the big log house located in the western corner of the messuage opposite the gates. The central part of the messuage was free from buildings and represented an open yard. Possessing the documentary information obtained as a result of the archaeological investigations researchers gained the opportunity of making archaeological and architectural reconstructions of the excavated sites (fig.7/2).

From its very beginning, secular town development of the Podil district of Kyiv demonstrated a firm tradition of constructing the buildings along the perimeter of the yard. It is difficult to say at the present where this rather highly developed tradition of wooden construction came from to the Middle Dnipro region at the end of the ninth century, since it has not been fixed among the preceding East Slavonic archaeological cultures which had inhabited the area throughout the seventh to eighth centuries. The ease with which the building methods were mastered in the town demonstrates that during the tenth century a new culture, able to gain new experience, was created.

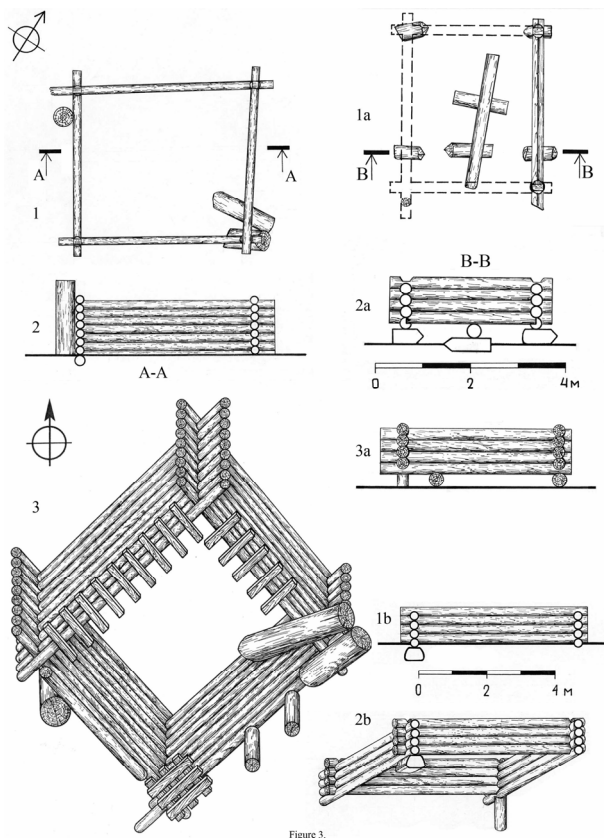


Figure 3. Underpinnings of log walls and floors – logs, foot blocks, piers.

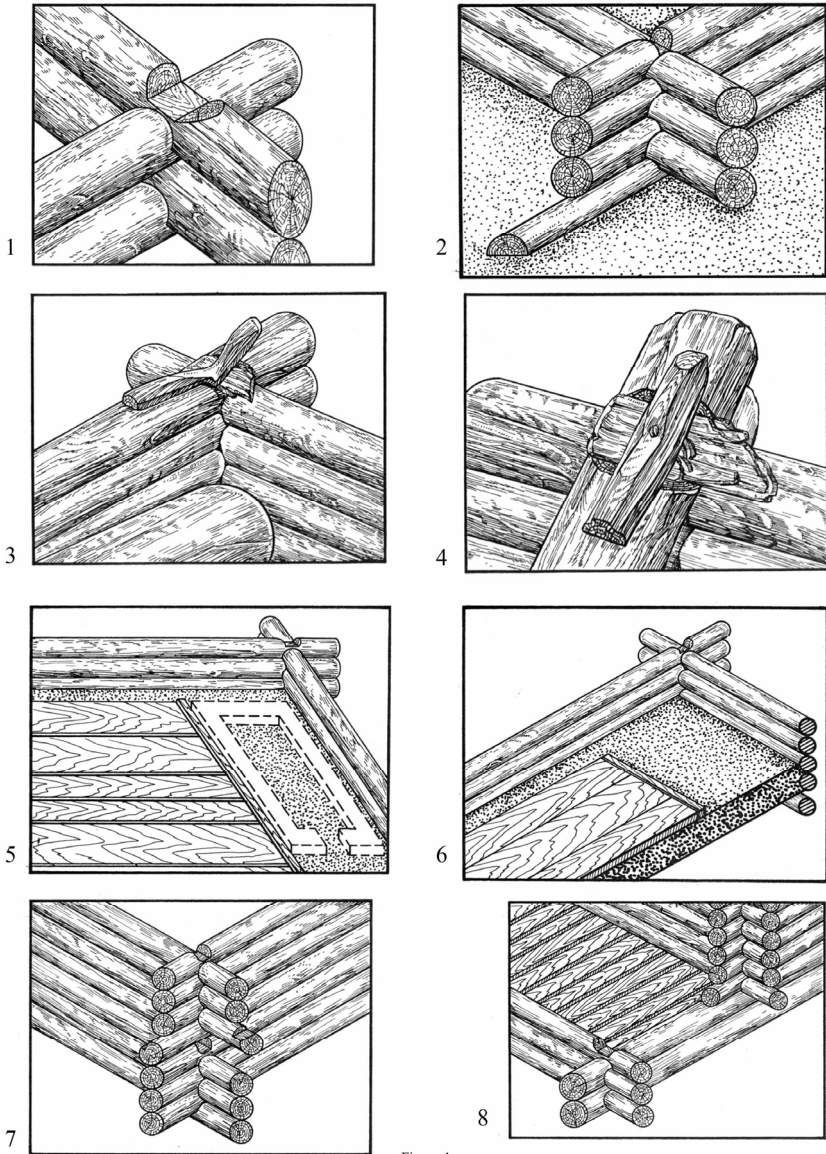


Figure 4.

Figure 4. Methods of notching the logs.

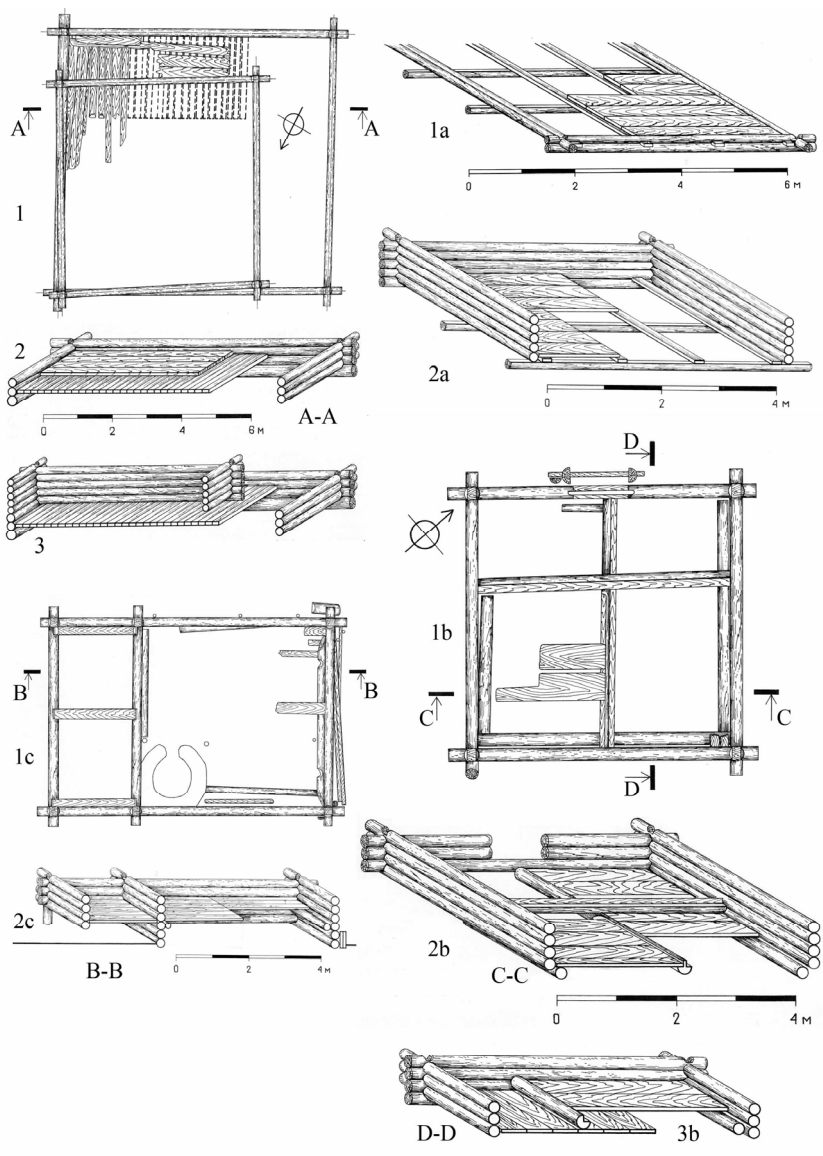


Figure 5.

Figure 5. Superposition of new over older buildings; methods of laying flooring.

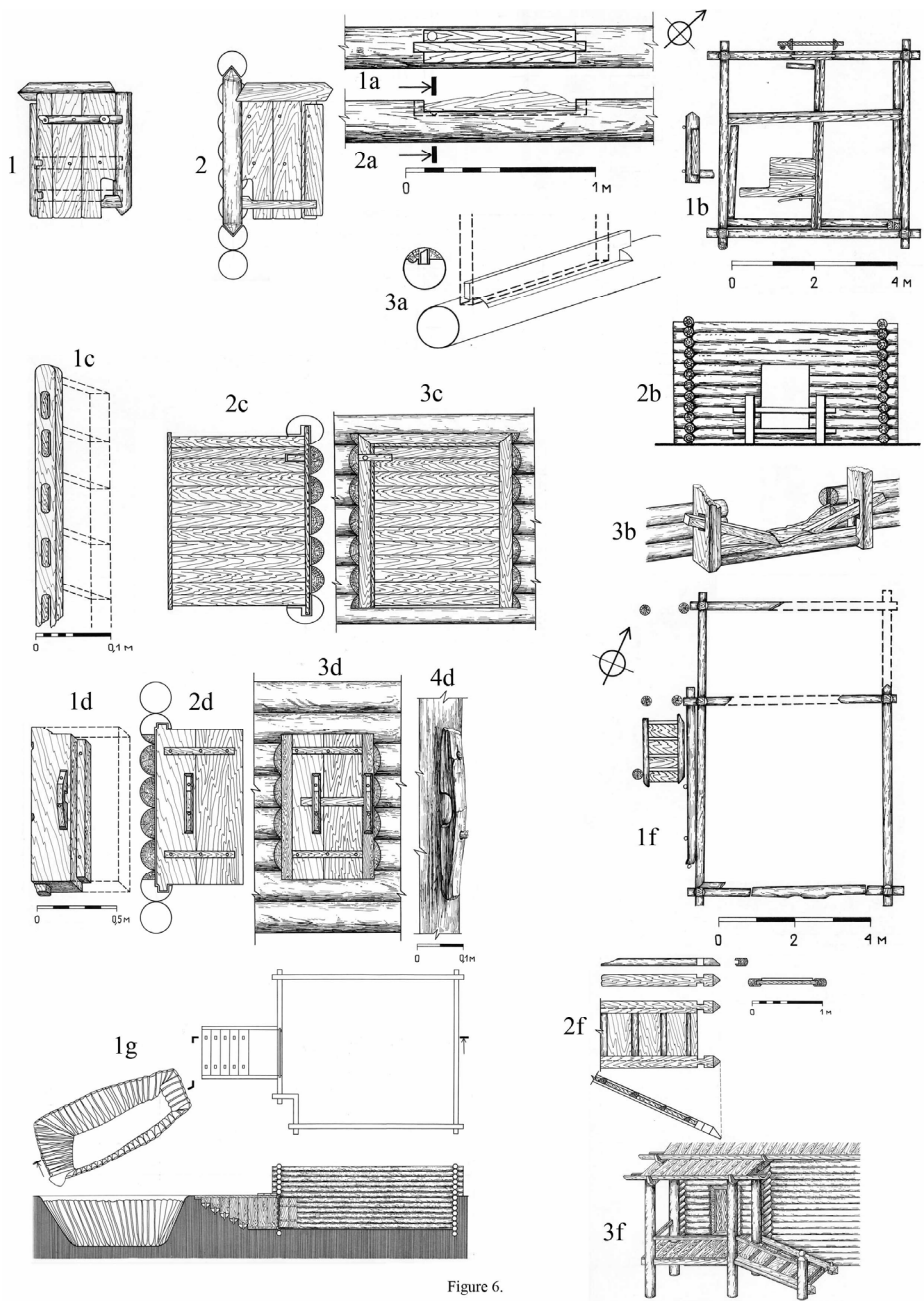


Figure 6.

Figure 6. Architectural elements – doors, windows, stairs..



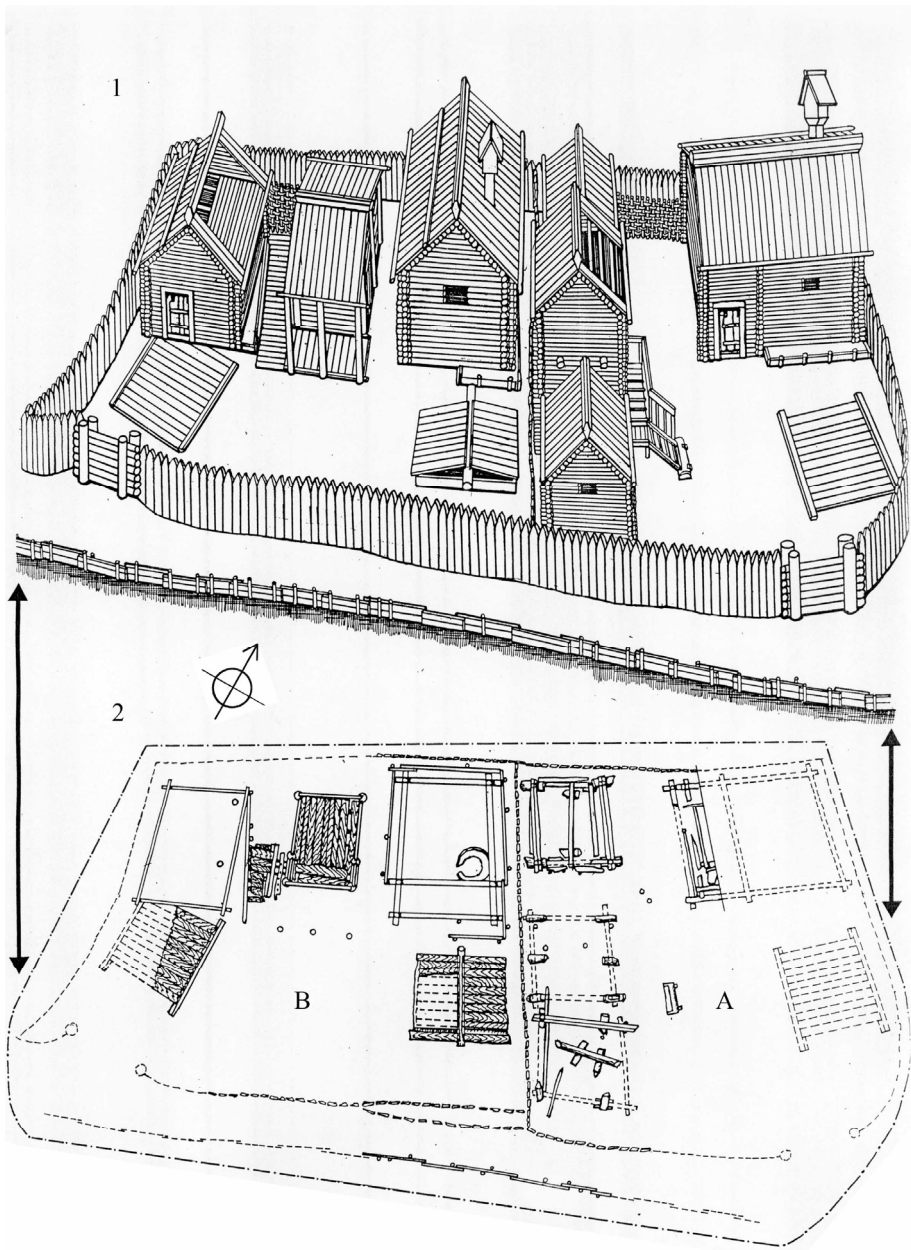


Figure 7. Architectural reconstruction of Messuages A and B, Zhytnetorgskaya Square, Podil, Kyiv.

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