

## Transfer and renovation of one of the last remaining houses with a 'podsíň' in the Czech Republic

Relocation of a wall segment of unburnt bricks in two compact blocks

In the last year, a declared cultural monument of vernacular architecture was transferred from the small village Oskořínek (Nymburk district) to the Ethnographic Museum of Polabí Region in Přerov nad Labem (an open-air museum). This paper focuses especially on the transfer of the brick part of the house which included a transfer of two compact blocks of an unburnt brick wall.

In the vernacular architecture of Polabí region, numerous buildings with a 'podsíň' were represented in the past. 'Podsíň' is a room formed by a more or less extended gable mostly in front of the gable walls of residential houses, smithies or farming vernacular buildings. Houses with 'podsíň' have their characteristic regional differences. In Polabí region, only several buildings with a "podsíň" have been preserved at original sites in Nymburk district. One of the last preserved buildings is a partly timbered house of the farmyard No. 65 from Oskořínek.

House with 'podsíň' from Oskořínek is a ground-floor, three-part building seated at an underpinning of rubble stone. At the original site, the house had a cellar. The 'podsíň' is projecting in front of the gable wall of the timbered sitting room. The whole area of fireplace, hall and store room parts was built from unburnt bricks. Timbering was covered with mud plaster from outside as well as inside, the so called fur-coat ('kožich'). The ceiling beams and the timbered part were dendrochronologically dated into 1831/32.

A photo published in 1909 shows the oldest known shape of the building (Fig. 1). A house of traditional three-part disposition with adjacent farming segment is situated at the north part of the yard. The photo documents the original collar beam roof with extending visible ceiling beams above the 'zápraží' and a saddle roof with thatched roofing. The timbered

part is depicted already in the 'fur-coat', the bricked part is plastered. Under the extended roof with regionally distinctive gables ('lomenice') topped with 'kabřinec', the 'podsíň' with decorative fence and fillings between struts and columns is situated.

The status after the adjustments from the 1st half of the 20th century is illustrated by the photo documentation from 1986, which still shows adjacent farming segment (Fig. 2). The saddle roof with burnt roofing is supported by the purlin roof frame with exceeding profiled endings of the rafters. The front parts of the shortened extensions of ceiling beams are covered with wood panelling from vertically laid planks. The 'lomenice' was changed for trapezoidal vertically panelled gable, while 'kabřinec' was replaced by hipped gable. Decoratively profiled fillings between the struts and columns of 'podsíň' had not survived until then.

Since the 90th of the last century, the building has not been permanently inhabited and has gradually degraded. During this period, the farming segment connected to the three-part disposition of the house was insensitively torn down. As a result of this destruction, the back (transversal) wall of the store room part of the house was missing. The house served as a depository for discarded staff.

The State Monument Care in the Czech Republic prefers preservation and renovation of listed monuments 'in situ'. In case of the over a long term unused and neglected house in Oskořínek, which was in a bad technical condition (Fig. 3), the transfer to the open-air museum was the only option for its conservation.

In 2009 the Ethnographic Museum of Polabí Region initiated the building measurements (Fig. 4) [11]. Subsequently, a proposal of transfer was elaborated [10].

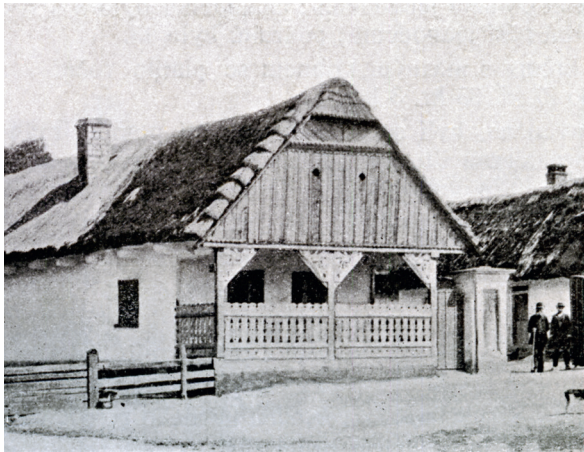


Fig. 1 House No. 65 in Oskořínek with the "Podsíň" – oldest known photograph in a book from 1909.



Fig. 2 House No. 65 in Oskořínek with the "Podsíň", 1986

The transfer of the immobile cultural monument, the house from Oskořínek No. 65, to the Ethnographic Museum of Polabí Region in Přerov nad Labem was approved by the Central Bohemia Regional Office in 2011. However, only in 2015 the subsidy from the Regional Operational Programme was granted to the Museum.

A transfer of the timbered part of a house is quite common practice in the Czech Republic with an established procedure. However, realisation of a transfer of clay walling was known only indirectly from abroad. In case of the house in Oskořínek, in order to maintain authenticity, the NPÚ ÚOPSC considered it necessary to transfer at least a part of the rear unburnt-brick-wall segment of the house in compact

blocks. The clay masonry from the fireplace area, partly damaged by the flues and by the construction phases of the fireplace, was not considered suitable for the transfer in compact blocks. The plan to transfer the rear part of the building in blocks was based on the long-term experience of the Monument Care with the support of masonry from burnt bricks or stonework in houses. The successful transfers of such constructions in our country were known as well as the transfers of whole buildings from burnt bricks and stone to open-air-museums in Germany. An important source of information was also an article about the transfer of the unburnt brick wall to the Niedersulz Village Museum in Austria [5]. No example of any unburnt brick masonry transfer in the Czech Republic was known to the contacted earth building

Fig. 4 House No. 65 in Oskořínek, Ground floor plan

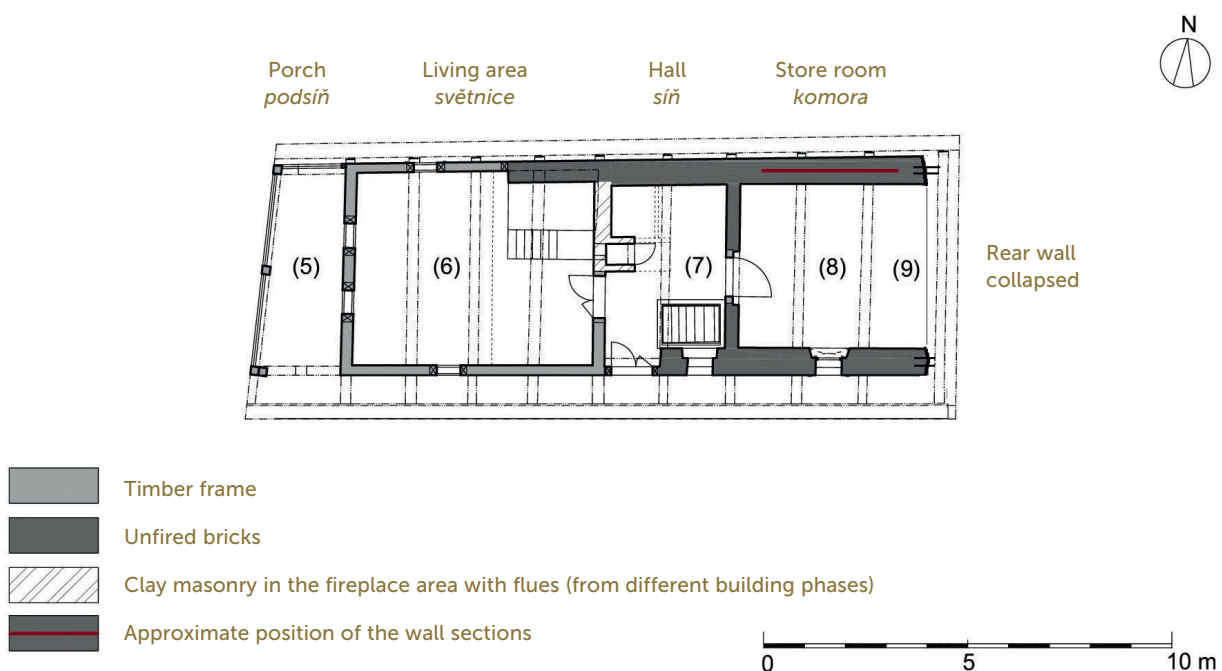






Fig. 3 House No. 65 in Oskořínek with the "Podsň".  
September 2014

experts and the NPÚ ÚOPSC during the preparation phase and the actual realisation.

The very transfer of the house was realized by a company that didn't have much experience with clay building and didn't venture to perform the assigned task. After complicated negotiations, limited by the deadlines related to the subsidy regulation of the project and the overall budget, a solution was pushed through that the given phase would be assigned to one of the companies that specialize in clay and earth building in our country. Following consultations, the db v.o.s. company, represented by Mr Bohdan Nebesař, was selected to carry out this task. After an investigation of the technical condition of the unburnt brick walls, the company recommended that

Fig. 5 Cutting of the earth wall to the store room on the street facade with a water-cooled diamond circular saw



most of them should be taken apart into individual bricks and assembled again after the transfer, following closely photographic documentation and measurements. At the same time the company drafted a method for their storage until their re-use. For the transfer in blocks, only a section of the rear part of the perimeter wall of street façade of the house remained. It was cut by a water-cooled diamond circular saw into two compact blocks weighing about 4.2 tons (Fig. 5).

During the cutting of the wall, a very interesting material composition of the unburnt bricks with rough stone cobbles sized up to 10 cm was found (Fig. 6). The very transfer of the unburnt bricks masonry was presented by the NPÚ ÚOPSC, the realisation company, the Ethnographic Museum of Polabí Region in Přerov nad Labem and the media as the first in the Czech Republic. In the time of the action, all available information led to this conclusion. In reaction to the published news about the clay masonry transfer in Oskořínek, the chief custodian of Velhartice state castle sent to the NPÚ ÚOPSC information about a transfer of two compact walls from unburnt bricks to the castle settlement that had been realized in 2007. However, the unique action was not described in the professional literature and couldn't serve as an information source for the preparation of the Oskořínek transfer. The technology of securing of the masonry blocks and manipulation with them was completely different. The unburnt brick walls in Velhartice were

Fig. 6 The cut surface of the wall







Fig. 7 Hammering in the steel plates beneath the wall



Fig. 8 Transfer of the first block with a hydraulic crane arm. Cracks are visible in the wall.



Fig. 9 Detail of the construction of the formwork, the bearing steel plates and the supporting brackets



Fig. 10 In Přerov nad Labem: the wall sections are seated on a new, pre-built wall base, September 2015

Fig. 11 In Přerov nad Labem: the two walls sections are in the foreground, the stabilised block with the cracks on the right. In the background, the newly built courtyard wall made of transferred original unfired bricks. September 2015.







Fig. 12 Ethnographic Museum of the Polabí Region in Přerov nad Labem. House No. 65 from Oskořínek in its new location, November 2015

stabilized before the actual transfer with the help of cement screed which was applied to the separation layer. After the transfer to the new site with the help of the steel construction, the cement crust was removed. [4]

In Oskořínek, a timber frame was used constricting a shell made of thick OSBs. The realisation company drew on their own experience with the production of formwork for rammed walls. Originally suggested separation geotextiles between OSBs and blocks of masonry were not used; it was found during the formwork assembling that the OSBs were smooth enough and it was not necessary to separate them from the masonry. On the contrary, due to not using the geotextiles, the surface of the clay masonry was not damaged. The company designed suspension brackets as metal loops at the threaded rods, vertically led through bottom lengthwise beams and bearing steel plates, secured by the screw female from below. Carrying capacity of each of the four brackets of a block was 2.5 tons. That's why the main bearing part of the construction were massive crosswise steel plates, five per each masonry block (Fig. 9). The 10 mm thick plates with pre-drilled holes had one short edge sharpened and one blunt so that they could be hammered into cut underneath horizontal groove separating unburnt bricks masonry from the stone underpinning (Fig. 7). The advantage

of the plates compared to the suggested crosswise wooden prisms consisted also in their trouble-free removal after seating of the blocks.

The clay blocks were transported by the hydraulic arm truck with a carrying capacity of 12 tons (Figs. 8 and 9) and were placed onto flat stone underpinning (Fig. 10). The masonry was therefore transferred without the original underpinning; in this the technology differed from the unburnt bricks masonry transfer to Niedersulz Village Museum in Austria [5]. The used transfer technology of the unburnt brick wall blocks proved very successful. The seated clay blocks fixed by the formwork could be relatively easily moved when needed. It was even possible to save part of the much damaged original plaster. After the seating, the blocks were properly bonded with brickwork from the original clay bricks. One of the blocks was successfully transferred even with an existing static crack (Fig. 8). Partly damaged margin was cautiously disassembled and prepared with careful brickwork from original bricks (Fig. 11) for connecting with adjacent perimeter walls. The saved original unburnt bricks were used for the re-construction of perimeter walls of the hall and the storage room part of the house. The opposite lengthwise perimeter wall with window segmental arches and original metal bars was successfully masoned on the clay mortar from the saved original bricks (Fig. 11).

This year the clay and lime plasters of the brick part of the house should be finished. Clay plasters of ceilings and timbered construction will not be applied until the next year, due to technological reasons (Fig. 12).

### Footnotes

- 1 An article dedicated to the wider context of Polabí architecture and the issue of transfer of the whole building including its timber part is Transfer a následná obnova jednoho z posledních polabských domů s podsíní (Transfer and Subsequent Restoration of One of the Last Polabí Houses with 'Podsíní') [3].
- 2 See also: [7], pic. at p. 113, 125, 139, 141, 143, 191, 195-6, 246 and 287; [2], p. 167; [6], p. 332, pic. at p. 353; [12], Pic. 24; [1].
- 3 [2], p. 117; [8], p. 252-255; [9], p.16, 310.
- 4 Typologically similar houses with 'podsíní' are documented in the areas of southern Jičín district and lower Pojizeří that have architecture related to vernacular buildings in Polabí. See also: [8], p. 252; [9], p.16.
- 5 Three-part house ('tříprostorový' or 'trojdílný dům' in Czech), translated also as 'three- room house', represents a basic form of traditional vernacular house in the Czech Republic.
- 6 A house in 'fur coat' is a timbered building with mud plaster (hliněná mazanina).
- 7 [7] p. 141.
- 8 'Zápraží' is a paved area, a sidewalk, along the lengthwise entrance yard side of the house, as wide as the extending visible ceiling beams.
- 9 The mud plaster was applied to the timbered part of the building secondarily, which is documented by the remains of lime paints at the timbering under the mud plaster and the stone underpinning of the timbered part of the house, originally projecting, that was aligned with exterior clay plasters.
- 10 Decoratively panelled gable from variously laid planks.
- 11 A semi-circle shaped marquise at the top of the gable projecting ahead of the gable.
- 12 The Regional Operational Programmes (ROP) are grant schemes co-funded from the European Regional Development Fund (ERDF).
- 13 Mr MEJSTŘÍK: information sent by e-mail on 14th March 2016. Published [4] p. 63
- 14 Due to the deadlines related to the subsidy regulations, the underpinning for the whole building was masoned in advance. That's why it was necessary to transfer the clay blocks without the stone underpinning.
- [4] HANZLÍKOVÁ, M. – NEBESAŘ, B. Přenesení hliněné části památkově chráněného domu. In: Zdravé domy/Healthy houses 2016. Sborník příspěvků z mezinárodní vědecké konference 22-23.4.2016, FA VUT v Brně, Sdružení hliněného stavitelství, Brno 2016, s. 59-65.
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### Picture sources

- Fig. 1: The oldest known photograph of the house from 1909 in KOŽÍŠEK [7].
- Fig. 2: Photo by P. Vácha, Photo Archive of the NPÚ ÚOPSČ (National Heritage Institute, Regional Office of Central Bohemia in Prague).
- Fig. 4: building measurements from [11]; Archivder NPÚ ÚOPSČ.
- Figs. 3, 5 and 10-12: Photos by M. Hanzlíková, NPÚ ÚOPSČ.
- Figs. 6-9: Photos by B. Nebesař and L. Nebesařová, db v.o.s., the building contractor.

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