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The water supply of a post medieval citizen's house in Malá Strana, Prague

ANNOTATION

A detailed analysis of one of the situations discovered during the rescue excavation in 2006-2008 on a house plot in the centre of Malá Strana. Building development of the house and changes in water management of the settlement area were observed in a Post medieval context. The exposed system of a water adit connected with a deep well had a complicated development, including a use of an earlier cistern within the house. The discovery is documented by specialists from several fields (archaeology, geology, dendrochronology, speleology) and is an example of building and sanitary technology of late 16th to 18th centuries.

SUMMARY

In 2006–2008 a rescue excavation was undertaken on the plot of house no. 260/III in the southern upper part of Malostranske Square, Mala Strana, Prague 1. Besides other features a post medieval, 17th–18th century, drainage system was discovered connected to a deep well.

The excavation of this water system was undertaken in two seasons. In spring 2007 a defunct underground passage was documented, which was connected to a system of drains in a newly discovered cellar in the eastern Renaissance wing of the building. The cellar was probably a management or technological space for draining the water away from the house foundations and for the controlled management of water running down the slope of Malostranske Square and possibly also combined with some economical or technological activity using the water flow. A groove cut into the subsoil ca 0,3–0,4m with its bottom lined by various sized stones (quartzite cobbles, plaener, lime stone) was cut into the floor subsoil on a N–S axis of the cellar. This groove, with a drop of 4,9%, started below the entrance stairs and terminated in a brick channel situated at the bottom of the passage, which is cut into bedrock. After 5 metres the drop raised to 15% and the bottom of the channel disappeared below the ground water table.

The second season of excavation revealed a large post medieval well ca 15m deep situated at the southwest corner of the house yard. The upper part of the well is built almost entirely from the plaener stone without mortar, with four small brick repairs. At a depth of 8m from the top it rests on plaener relieving arches. The bottom section is cut into bedrock. Four segments of a timber pipe were found preserved in the lower part of the well (the length of the segments 3,85 m, 3,57 and 3,30 m, the lower segment hidden in the sediment on the bottom of the well). The timber is worked to a regular octagon with a drilled centre (the diameter of the inner opening is ca 90mm). The joints are overlapped with additional laths 1,0-1,2 m long.

In principal it is a cistern dug into the slate bedrock supplied from the channel leading through the cellar spaces and the underground passage. "The well" was situated in steeply sloped terrain below Malostranske Square and water from the square could have been gathered in the newly discovered cellar and led by the channel at the bottom of the drainage passage to the cistern at the house yard.

The find, which was assisted by specialists from several branches (archaeology, geology, dendrochronology, speleology), is a minute example of engineering and building abilities from the 17th–18th centuries. Similar systems have previously been identified at Mala Strana (CILEK 1990), but have not been mapped in such detail. Finds of adits, managing the water supply for the royal holdings of economic or recreational nature (The Rudolphinian adit for The Royal Hunting Reserve) or for areas of ecclesiastical importance (Strahov, Vyšehrad, Zbraslav), have been known from Prague for several years (VAVROVA 1997; KŘIVSKY 1997). However the system from house no. 260/III at Malostranske square is the first fully published example of such type of a water system supplying a post medieval citizen's house.

Fig. 1. Prague, Mala Strana and a part of Hradčany. Plan with house no. 260/III (in red) between Malostranske Square and the Market.

Fig. 2. The state of the drain in the lower cellar (spring 2007). In the top right corner is the entrance staircase built from re-used Baroque (?) moulded stones. View from the east.

Fig. 3. Drain adit and a brick channel – groundplan.

Fig. 4. Prague 1-Mala Strana, Malostranske Square no. 260/III. Selection of finds. Backfill of the “lower cellar” – a cistern?: 561 – glass beaker; 561-2 – plate like bowl; 564-1 – a small glazed pot with a handle; 564-3 – miniature bowl with coloured decoration; 564-4 – glazed ceramic money box. Backfill of the drain adit to the south from the cellar: 760-1 – unglazed plate like bowl; 977-1,3,4 – glazed plate like bowl.

Fig. 5. Drain adit and a brick drain – section at the western wall.

Fig. 6. Drain adit and a brick drain - section at the eastern wall.

Fig. 7. Detail of the drain entry at the southern wall of the lower cellar before unblocking of the infill.

Fig. 8. General plan of the drainage system below the eastern wing of house no. 260/III and the well discovered in the south western corner of the yard.

Fig. 9. Inside of the well after unblocking the infill.

Fig. 10. General section of the well with later significant repairs, including the technical and technological parts inside the well.

Fig. 11. Detail of the brick drain end in the well.

Fig. 12. Lower part of the well (planer relieving arches), a fragment of a wooden pipe and a rock base of Letenska slate forming the side of the well.

Fig. 13. Detail of a wooden pipe with a forged flange and ring.

Fig. 14. A sample of the lath cladding of the wooden pipes.

Fig. 15. Detail of the geological situation at the base of the well.

Fig. 16. General section of the water and drainage system in the yard of the ‘The Three Golden Crowns’ house.

Fig. 17. Spatial presentation of the newly discovered well in the yard of house no. 260/III – view to the south, to Market Street (Tržiště).

Fig. 18. Spatial presentation of the newly discovered well in the yard of house no. 260/III – view to the north, to Malostranske Square.

English by Linda and Patrick Foster