The Excavation of the Well in the Fortress

László Vándor

The construction of the fortress of Count Miklós Zrínyi, Ban of Croatia, who held the area lying between the Drava and Mura Rivers (the so-called Muraköz) began in June 1661, and the building was destroyed by the Ottomans on 7 July 1664. The remains of the fortress were archaeologically identified in the 1970s and 1980s – and were later subjected to battleground investigations in 2005 – between the villages of Őrtilos (Somogy County) and Belezna (Zala County), near the frontier of Croatia and Hungary. They were found in a wooded area at the northern end of a hill ridge rising near the confluence of the Mura and Drava Rivers.[1]

The fortress played a vital role in the Ottoman–Habsburg War of 1663–1664. It was, in fact, a *casus belli* since Miklós Zrínyi had it built on the northern side of the Mura River, which was under Ottoman suzerainty. The primary purpose of the bridge head-like fortress was to make easier the access of Kanizsa – held by the Ottomans since 1600 – for Hungarian troops over the Mura. This would enable them to cut off the supply routes leading to the westernmost provincial seat of the Ottoman Empire, and carry out its occupation worked out by Zrínyi.[2] It was from this stronghold that the winter campaign led by Miklós Zrínyi and Julius Hohenlohe (giving rise to a major European response) was launched in January 1664, and this was also the base for the siege of Kanizsa in 1664.

Following the 2006 test excavation of Zrínyi-Újvár, the area has been subjected to regular archaeological investigations since 2010. Their results have been published in several papers so far.[3] Numerous publications have also been dedicated to battleground investigations and instrumental surveys in and around the fortress, as well as the metal find analyses closely connected to the archaeological research.[4]

The archaeological research has been carried out by László Költő and Máté Varga, from the Ripp-Rónai Municipal Museum with County Scope (Kaposvár), and László Vándor, from the Göcsej Museum (Zalaegerszeg), supported by the National University of Public Service (Budapest), and the municipalities of Őrtilos and Belezna.

After a quite long preparatory phase, the exploration of Zrínyi-Újvár was continued with a test excavation (2006), and systematic excavations (2010–2016) were conducted within the fortress. A building divided into seven parts has been uncovered. There were six rooms

1 *Vándor* 2012; *Hausner–Négyesi–Papp* 2005.

2 *Kelenik* 2012; *Domokos* 2012; *Vándor* 2015.

3 *Vándor* 2012. 84–98, Figures 1–18; *Vándor* 2014; *Költő– Bertók–Négyesi–Padányi–Szabó* 2014; *Vándor* 2017.

4 The most important ones: *Hausner–Padányi* 2012; Határok fölött. Tanulmányok a költő, katona, államférfi Zrínyi Miklósról [Above the Borders. Studies on the Poet, Soldier and Statesman Miklós Zrínyi]. Eds. *Sándor Bene – Pál Fodor – Gábor Hausner – József Padányi*. Budapest, 2017.

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with roughly the same floor area, which served as living quarters. A large one in the middle must have had a communal function. The walls of the timber-framed *(Fachwerk)* building were filled with wattle-and-daub between the uprights, and each room was heated with a tile stove.

The stoves were constructed of relief-decorated and cup-shaped tiles. The decorated stove tiles were unglazed, and most of them were the copies of tiles made around the middle and in the second half of the sixteenth century (and included some types unknown before). A smaller part of them dates to the seventeenth century, and has mainly well-known motifs. The stove tile with sixteenth-century motifs come from the age of the fortress-builder Miklós Zrínyi's great-grandfather (the hero who fell at Szigetvár, and who was also called Miklós Zrínyi), and from the time of his grandfather, György Zrínyi.[5] One type of the latter is known from the nearby Bajcsa Fortress, commanded by György Zrínyi and built by the Styrian Estates.[6]

Although the building was evacuated during the siege of the fortress in 1664, and, except for the stoves, all the valuable furnishings were removed from it, some exceptional items (the fragments of Persian faience and Haban pottery) were scattered on the floor and pressed into the ground, which suggests that these were used by the officers of the fortress.[7]

Figure 1.
Some types of stove tiles from the building with seven rooms
Source: picture made by the author

Archaeological test pits dug to the north-east of the building suggest the existence of another building (or perhaps even more buildings) in this direction, but the full exploration of these areas still remains a task for the near future.

In parallel with the investigation of the building, we paid special attention to finding and excavating the well of the fortress.[8] To the south-west of the seven-part building, the excavation of a large recess (section No. 2010/3) has already started. At the beginning of the work, we already assumed that the well of the fortress was there. The recess was excavated to about two metres from its bottom (more than three metres from the ground level of the courtyard), when it became evident that – in case, we truly found the well – we would not be able to uncover

5 *Vándor* 2012. 94–97.
6 Weitschawar/Bajcsa-vár 2002. 70, 123.
7 *Vándor* 2012. 94.
8 In line with the historical sources, the excavation of the well was included as an issue of high priority in the memorandum of cooperation signed by ten institutions and municipalities on 30 September 2007, planning the investigation and utilisation of the fortress. *Papp* 2012. 129–131.

it with conventional archaeological methods because of its depth. The gradual narrowing of the recess and later its shape increasingly suggested that it was the site of the expected feature, but the large amount of late-eighteenth- and nineteenth-century finds in its backfill gave rise to some uncertainty. Nevertheless, we assumed already then that farmers working in vineyards (planted in the territory of the fortress beginning with the eighteenth century) were dumping their waste into the pit that came into being due to the collapse of the well. There was also a wine press house nearby, and we discovered its foundations.

As the subsequent excavation of the well would have required a skilled person, special equipment, and, last but not least, substantial financial resources that were not available to us, we postponed its digging and focused on the excavation of the building and reconstructing the plan of the defences.

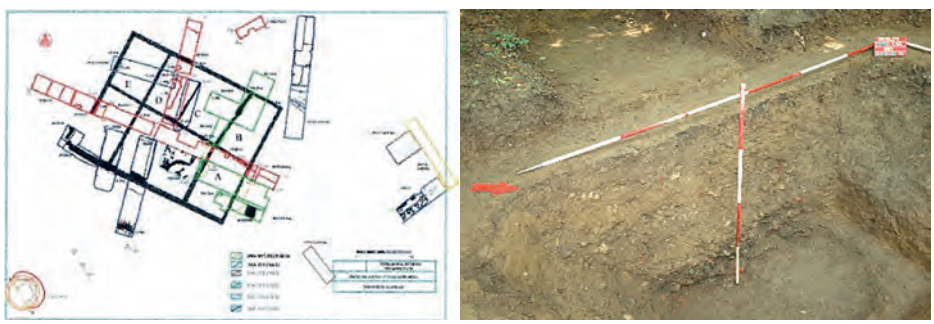

Figure 2.
The plan of the excavated building and the well
Source: picture made by the author

Investigation of the well in 2010

As the defenders placed mines under the defensive works of the fortress during the siege[9] but had no time to explode them, the destruction was carried out by the Ottomans who seized the fortress. The Ottoman sappers did careful work when blowing up the fortress, which, together with the terrain covered with forest, made our investigation rather difficult. The remains of the fortress defences visible above the ground were further destroyed in the first half of the 1950s when a fortification system was constructed towards Yugoslavia. Eventually, the remains of the burnt palisade wall were detected by battlefield investigations and geophysical surveys, and the excavation conducted there was also successful. A wall section on the southern side of the former spur tower was discovered, which enabled us to reconstruct the wall structure. Furthermore, the projectiles discovered there showed the activity of the artillery besieging this part of the fortress.[10]

Excavations up to 2016 clarified the layout of the interior of the fortress and its relation to the well located in the centre of the fortress.

[9] *Domokos* 2012. 63.
[10] *Költő–Bertók–Négyesi–Padányi–Szabó* 2014.

Afterwards, we focused on excavating the well. It seemed crucially important to determine the real depth of the feature found earlier (in 2010), which was identified as a well, as this could help confirm its function. First, we tried drilling manually with the assistance and equipment of the National University of Public Service. However, we were not able to reach the required depth and achieve our goal.

We were about to continue our research with an engine-powered drill in the summer of 2016, but our plan had been dropped, as we had the possibility to conduct a ground-penetrating radar archaeological survey due to the support of the university. The results of this survey demonstrated that the well dug sometime between 1661 and 1664 was found, indeed, in section No. 2010/3. When evaluating the data of radar surveys, it turned out that there was a deep feature at that place. Owing to the backfill mixed with debris, the image made by the radar in the upper layers was unclear. At a depth of 7–8 m, however, it showed a blurred but more or less regular, round or polygonal form. Furthermore, on one side, the wooden lining of the feature was also perceptible in the form of a beam-like band. Now that we had ascertained the correctness of our earlier assumption and that we had found the site of the former well, we had to determine how to proceed with the work. We decided to fully excavate the well using a well-digging method, for which we managed to find a specialist.[11]

The well in historical sources

First and foremost, we need to explain – as it is referred to above – why this part of the work was highly important beyond what is generally expected from the uncovering of wells, and what significance the excavation of the feature had in reconstructing the history of the fortress and even the course of events in Hungary between 1663 and 1664. This can be highlighted with the help of contemporary sources.

Both Ottoman and Hungarian written records are available to us about the well.

Evliya Çelebi, who witnessed the siege of the fortress, wrote the following: "The perimeter of the fortress is three thousand seven hundred steps, and there is a water-well in the middle of it. On the top of the timber-shingle dome covering the well, there was a glossy golden flag stolen from the fortified Türbe where the internal organs of Suleiman Khan were buried. The Grand Vizier had the flag removed and sent it back to the Türbe. He commissioned the Bey of Mohács and the Bey of Pécs to restore the glorious Türbe and its fortification."[12]

Pál Esterházy, who was also present during the siege, recorded the events following the Ottoman occupation of the fortress, and described the destruction of the well as follows: "In the morning following the discussion […] all this was not enough, the well of the fortress providing excellent drinking water was filled with the corpses of Christians […]. The fortress was destroyed with the tireless work of the army in three days to such an extent that it disappeared without a trace."[13] Since Esterházy witnessed all this not simply from across the Mura but "on the day when the enemy left, [he] went to the site of the destroyed

[11] The well was dug by well-digging master Balázs Tóth and his team from Kaposvár.

[12] *Evlia* 1985. 591.

[13] *Esterházy* 1989. 167.

fortress" and "carefully observed" the place, including the Ottoman siege ramparts. He gave the most authentic contemporary description of the well.

The third most important source of the existence of the well is the site plan attached to Pál Esterházy's *Mars Hungaricus,* which depicts a feature identifiable with the well approximately at the site of our excavation.[14]

Figure 3.
Map by Pál Esterházy depicting the well in the middle of the fortress
Source: MNL OL T. 2. XXXII. 1064

The sources highlight the prominent role that the drinking-well played in the history of the fortress. The dome ornament taken from the sepulchral monument of Sultan Suleiman in Türbék during the winter campaign decorated the timber-shingle dome over the well of the fortress, which was built by Zrínyi as a symbol of his victory over the Ottomans. Later, in retaliation, the Ottomans threw the corpses of the defeated defenders into the well.

Because of this, the excavation and display of the well was designed as a central element of the memorial site.

The excavation of the well[15]

We began the excavation of the well in a usual round shape after clearing the area and removing the collapsed wall. Below a depth of three metres, modern materials disappeared from the backfill of the well. The small number of finds coming to light was dated to

[14] MNL OL T. 2. XXXII. 1064. Master with initials M. I. O. Site plan of the 1664 siege of Zrínyi-Újvár.
[15] A short summary of the excavation: *Költő–Vándor–Varga* 2018.

the seventeenth century and was apparently drifted from the surface into the pit when the walls of the well collapsed.

During our excavation, it was the first time that we found green-glazed stove tiles or their shards. They may come from a major – still uncovered – building located in the vicinity of the well.

Figure 4.
The first phase of digging deeper in the well
Source: picture made by the author

After reaching a depth of about four metres, we continued the excavation with the construction of a post structure around the area and making a three-legged iron ladder to allow the well-digger descend and ascend with the soil.

Figure 5.
The well during excavation and the tools of the excavation
Source: picture made by the author

Getting as far as six metres deep in the well, we found that – due to the collapse of the well wall – we had somewhat diverged from the central vertical axis, so we had to make corrections to the excavation pit.

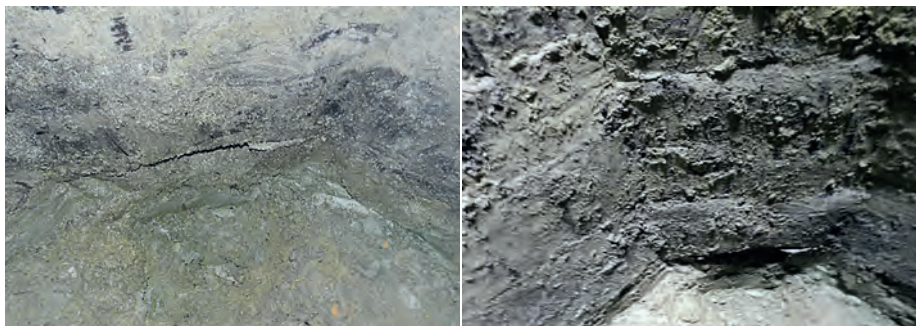

Figure 6.
The bottom of the well
Source: picture made by the author

Shortly afterwards, at about seven metres deep, the wooden lining of the well appeared, first as a discolouration, and then, in reality. We could also observe that the shape of the well was octagonal, rather than round.

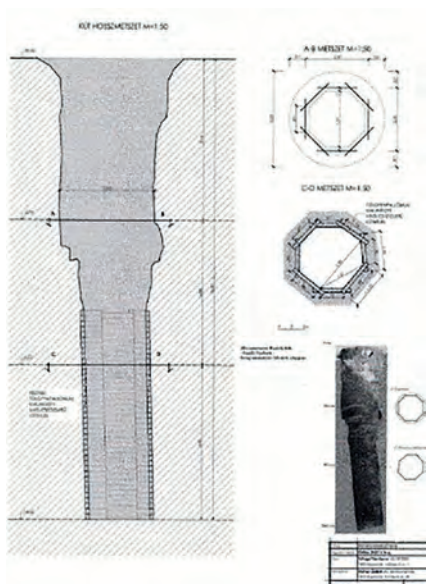

Figure 7.
Archaeological records of the well:
Vertical and horizontal section drawings and 3D survey made by Pazirik Ltd.
Source: Pazirik Ltd.

After the shape of the well had been clarified, and the well-preserved wooden lining was found at a depth of 7.8 m, we continued the excavation within the lining. Little more than one metre deeper, we found timber elements (including very large pieces) in the backfill, which were in good condition just as the lining of the well. At the top, there was a huge piece of wood that looked like a tree trunk. It stood upright leaning against the lining. The lifting of this find in one piece proved to be a rather difficult – but ultimately successful – task. After bringing it up to the surface, it turned out that we found a drinking trough hollowed out of a tree trunk, which once stood next to the well. Based on its position, this was the last item to be thrown into the well by the Ottomans during the demolition of the well.

Figure 8.
The drinking trough in the well, during lifting and after cleaning
Source: picture made by the author

After the trough was lifted, the excavation was only complicated by large quantities of wood thrown into the well, including a beam that was more than four metres long. However, the bulk of the wood clearly belonged to the structure of the well. We found parts of the well lining and fragments that could be identified as parts of the well curb. We were able to identify structural items required for water extraction, and some pieces of the protective structure above the well (called 'dome' in the sources) also came to light.

Stuck between the pieces of wood, there were – though in a small quantity – human remains (bits of skulls, jaws and long bones).

Additionally, there were remains of clothing (mainly pieces of leather garments surviving in better condition and a few clothing ornaments), as well as some items belonging to the weaponry.

The objects found in the bottom layer of the well included mainly items that got into the well during its use or those that fell in it during the construction of the well or rather the well house.

We found the bottom of the well at a depth of 14.62 m, where we reached the bottom of the lining that rested on the clayey soil without any support.

The structure and parts of the well

The construction of the original well started with the construction of a shaft of three metres in diameter. Inside the shaft, an octagonal wooden lining was built in the full depth of the well. The sides of the lining currently form a more or less regular octagon, the sides of which vary from 76 cm to 93 cm in length. The distance between the nearly parallel side panels is 200–220 cm.

The lining of the octagonal well was made of oak planks with sawn ends for easy joining. The elements of the lining were designed to be easily fitted into one another and the imprecisions of the pre-made pieces at the joints would not cause any problems. Due to this method, the lining could be excavated very quickly.

The large amount of wood found during the excavation (which must have belonged to the structure erected above the well) was severely damaged and burnt, suggesting that they got into the well during or after the burn.

The well curb could be reconstructed from a few pieces. The structure above the surface was built of elements identical to the lining, which was closed with pieces of wide, horizontal planks. Water was fetched with the help of a cylindrical structure used at wheel wells. The drum was held by upright beams that were drilled through, and both of its ends were reinforced with iron bands, fastened with iron pin nails. Unfortunately, the structure (either a wheel or a rod handle) used for moving the cylinder has not been found.

Figure 9.

The end of the wheel cylinder with an iron band and iron pin nail, as well as the iron pin nail

Source: picture made by the author

The structure erected above the well could not be fully reconstructed from the discovered elements. Based on contemporary records, however, it seems that it was dome-shaped, and it was covered with timber shingles. The data of written sources have been supported by the finds discovered at the site.[16] The dome must have had a round or rectangular base. According to experts in the woodworking industry, the carpentry technique employed is suggestive of a rectangular base. Based on the sawn timber planks, there could have been a beautifully made protective fence above the well.

[16] The well was dug by well-digging master Balázs Tóth and his team from Kaposvár.

The finds

Since the restoration of the finds has not been completed by our writing the preliminary report and the conservation of the surviving timber material is also in progress, we can provide only a general overview that cannot be regarded as comprehensive or final in any way. As the finds discovered in the well are also in different stages of restoration and conservation, I am going to present all of them with photographs taken during the excavation.

The greatest amount of finds comprised the elements of the well house, the well curb and the collapsed lining, which must have been mixed with artefacts coming from the surrounding buildings.

Figure 10.
Timber items uncovered from the well and parts of the well lining
Source: picture made by the author

Outstanding items from clearly identifiable finds include the burnt fragments of the well drum discussed above, a fragment of one of the beams supporting it, pieces of the well curb and the well lining, timber shingles belonging to the dome (including intact pieces), as well as some sawn, intact or fragmented decorative elements.

The identifiable items of the wooden material were recorded in drawing in detail.

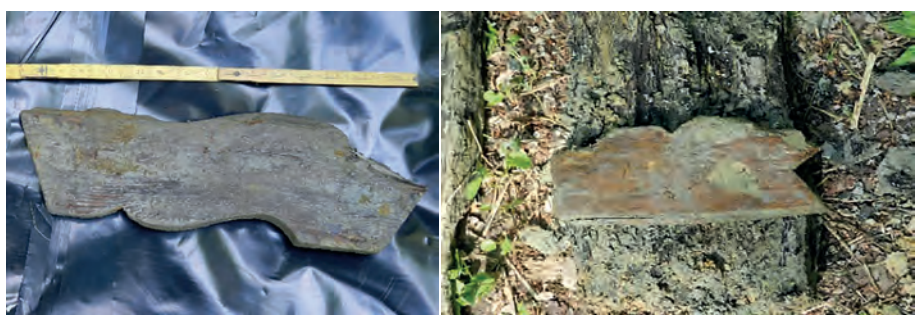

Figure 11.
Shaped pine board pieces from the structure erected above the well
Source: picture made by the author

The largest wooden object was a drinking trough that once stood next to the well. Based on its position, it was the last object to have been thrown into the well. The softwood trough hollowed out of a single tree trunk came to light almost intact.

Figure 12.
The drinking trough after lifting from the well
Source: picture made by the author

The Waterworks Company of Zala County took care of the preservation of the wooden finds until their final conservation.

From the metal objects, mention must be made of weapons (a sabre with a slightly curved blade the tip of which broke off, and a western-type helmet), two pieces of solid iron, a large number of ceramic cannonballs of different calibre, as well as lead gun bullets.

Figure 13.
A helmet, a sabre, as well as iron and ceramic cannonballs discovered in the well
Source: picture made by the author

Figure 14.
Gunstock bearing the initials of its owner's name
Source: picture made by the author

The most interesting and unique group of finds were the well-preserved wooden gunstocks. Apparently, the gun barrels were broken off by the Ottomans, who used a different type of stock. They evidently reused the barrels and cast the gunstocks into the well. One of them bore letters, probably the initials of its owner's name.

Figure 15.
Gold appliqué and a clasp, and a bronze button
Source: picture made by the author

The items of clothing must have got into the well together with the corpses cast into it. Unfortunately, the textile items were almost completely destroyed, and only a few tangled threads indicated their existence. However, the leather one remained in very good condition. In addition to the various pieces of straps, there were other items, such as a nearly complete leather cap that must have been worn under the helmet, as well as the uppers and soles of boots, including a beautifully decorated boot upper.

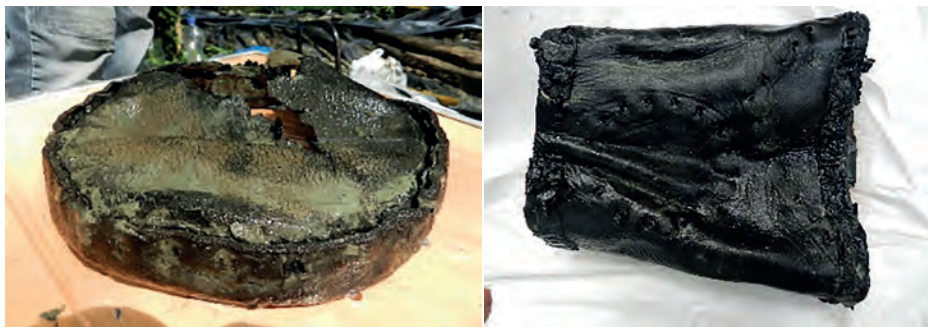

Figure 16.
A leather cap and a decorated boot upper from the well
Source: picture made by the author

Getting closer to the bottom of the well, we expected the appearance of objects that fell into the well during its usage. Due to the very short lifespan of the well, these finds were, unfortunately, quite small in number. In addition to the pottery, it is worth mentioning a small wooden barrel that was originally held together with a band of wicker.

Figure 17.
Pieces of the small wooden barrel
Source: picture made by the author

At the bottom of the well, there were three objects that could have fallen into it while the well was constructed. These are an 18 cm long carpenter's hatchet with a nail puller, a wooden hammer and an iron drill bit.

Figure 18.
A hatchet, a wooden hammer and a drill bit found at the bottom of the well
Source: picture made by the author

The analysis of the wood material

Samples were taken from the wooden finds for dendrochronological analysis and tree species identification. The excavated wood material was analysed by András Grynaeus. The results of the analysis are in full accordance with historical data on the construction of Zrínyi-Újvár, according to which the trees were felled and the timber was used after 1658 for the construction of the well. Predominantly oak trees were used for building the well, and fir trees were used for covering and for decoration, but other species were also applied, such as elm trees.

The restoration of the well (a reconstruction plan)

Following the conservation plan approved during the excavation, we filled back the well with the extracted soil to the height of the surviving wooden lining (between –14.62 m and ca. –5.5 m) to preserve for posterity the timber structure that remained in its original state.

The uncovered feature can be reconstructed. Its partial restoration and display under a protective building can be carried out on the basis of conservation plans approved during the excavation. Accordingly, the well will be displayed after the reconstruction of the wooden lining from a depth of 5–5.5 m (measured from the original ground level) to approximately one metre above the surface. It will be covered with an iron grid. A dome with timber shingles has been designed above the well after its historical description, which can also serve as a rain shelter for visitors to the memorial site.

The feature has been covered with a stable, temporary structure to the finishing of the planned reconstruction.

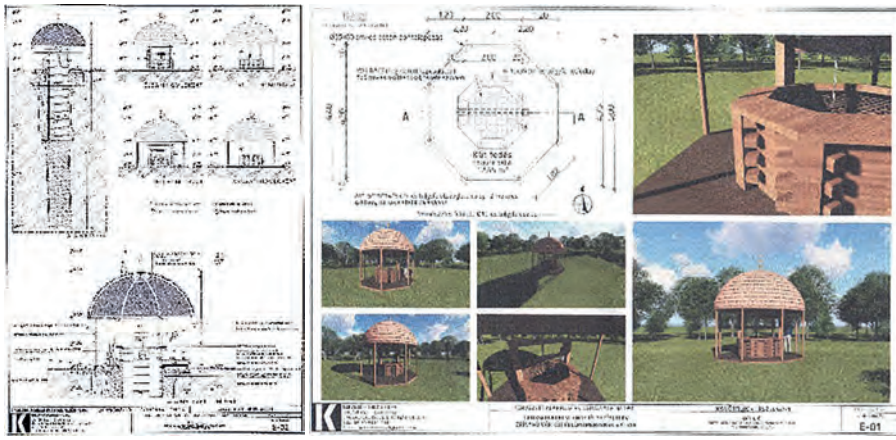

Figure 19.
Details of the reconstruction plans of the well
Source: Erika Kondor architect, Zalaegerszeg

Summary

During the short-term use of the well, a few objects fell into it, which were connected to the use of the fortress and its soldiers. The majority of the finds, however, were related to the destruction of the fortress and its well.

The excavation of the well confirmed the data of written sources describing that the Ottomans seizing the fortress strived to make the well completely unusable, like the fortress. The pieces of the well house show burn marks, which may have been caused by the siege, but it is also likely that the Ottomans set it to fire when they destroyed the fortress. Nevertheless, it is certain that pieces of the partially burnt, disassembled and smashed structure were deliberately cast into the well, along with the drinking trough associated with the well.

Esterházy's report of the site and that the Ottomans threw the bodies of the defenders who had fallen during the siege of the fortress into the well must be regarded as testified by the uncovered remains. The question why there were so few human remains is answered by their character and a group of finds. Apart from a skull fragment, the human remains were mostly long bones and a jaw, which are the most easily detachable parts of the body. After the Ottomans had retreated, many soldiers from the army defending the riverbank from the other side of the Mura certainly visited the destroyed fortress (like Pál Esterházy) to observe what had remained of it. When they saw what happened to their fellow soldiers thrown into the well, they must have taken them out so that they could bury them properly. During this operation, some parts of the bodies trapped in the wooden structure of the well may have come off. Our assumption is confirmed by the items of clothing found among the wooden remains of the well, the position of which would otherwise be hard to explain.

The leather and therefore preserved items and the unfortunately decayed remains of textile garments must have been torn off from the corpses, like the parts of the bodies, when they were lifted out.

There must have been two reasons why the Ottomans threw the bodies into the well. One is the revenge for the desecrating the burial place of Sultan Suleiman the Magnificent by removing its dome ornament and placing it on the well. The other is that the water of the well was infected with the dead bodies, which would make difficult its reuse in case the locals wanted to rebuild the fortress and the well in it after the retreat of the Ottomans.

Beyond all these, the importance of the excavated 14.62 m deep well is that in the territory of present-day Hungary it is the only built monument directly related to Miklós Zrínyi, a prominent figure of Hungarian history, which has been preserved and can be displayed. Furthermore, the significance of the research is that during the excavation, we could record a well structure and building method that is unparalleled based on our current knowledge.

The finds discovered in the well have contributed significantly to our knowledge about the history of Zrínyi-Újvár and confirmed the authenticity of the contemporary descriptions of the siege. It is the first time that artefacts directly associated with the defenders of the fortress (unique items of clothing and small arms) have been found.

Last but not least, the excavation of the well also provided direction for further investigations. The quality of the stove tiles discovered there differed from the already known ones, which indicated the existence of a prominent building (presumably, the captain's residence) in the vicinity of the well. Based on the conditions of the terrain, it must have been built somewhere to the south of the well, in the middle of the courtyard.