

I. ARTYKUŁY – PAPERS

MARIAN MAZUCH*

FINDINGS ABOUT THE EARLY MEDIEVAL FORTIFICATION OF THE MIKULČICE – VALY ACROPOLIS

Abstract: The author evaluates the available information about the fortifications of the Mikulčice acropolis, the main area of the Early Medieval agglomeration. He gives a new perspective on the structure and dating of the fortification based on analyzing the documentation of all conducted excavations. Great Moravian rampart is composed of a stone face wall, clay-wood core strengthened by grates and a stone substructure ringed by stake palisades, in front of, and in some places partially under, the face wall. The substructure's role was most likely to bear the face wall's weight and to strengthen the artificial slope under it against water erosion by the nearby river. The defensive wall was built in a relatively short time as a singular structure, probably in the last third of the 9th century.

Keywords: Early Middle Ages, Great Moravia, Mikulčice, fortification, wooden structure, defensive wall

1. OVERVIEW OF KNOWLEDGE ABOUT THE ACROPOLIS FORTIFICATION

The central part of the Mikulčice early medieval center of power, the so-called „princely castle” or „acropolis”, is the main fortified area with stone church buildings, an adjoining cemeteries, the palace of the ruler, a settlement with above-ground cobwork buildings constructed mainly on sandy floors and several gates, through which the fort's main communication lines ran (Fig. 1; see Fig. 2 for the historical ground plan of the Great Moravian Mikulčice). Since the 1950s, the fortification of this intensively studied complex has only been uncovered in four sections – all on the north side of the acropolis (for detailed research, see P r o c h á z k a 2009). Each of these probes or excavated areas, however, in some way limits the understanding of the historical appearance of the walls (Fig. 3.1-4) due to their differing excavation methods and the circumstances that accompanied them.

In the first case, at the outset of archaeological digs at the Mikulčice fortified settlement (part of the investigated area Church II. 1955-1959 – see Fig. 3.1), part of the core structure was mistakenly interpreted as a series of dugouts (relying on

* Archeologický ústav AV ČR Brno v. v. i. Čechyňská 363/19 60200 Brno.

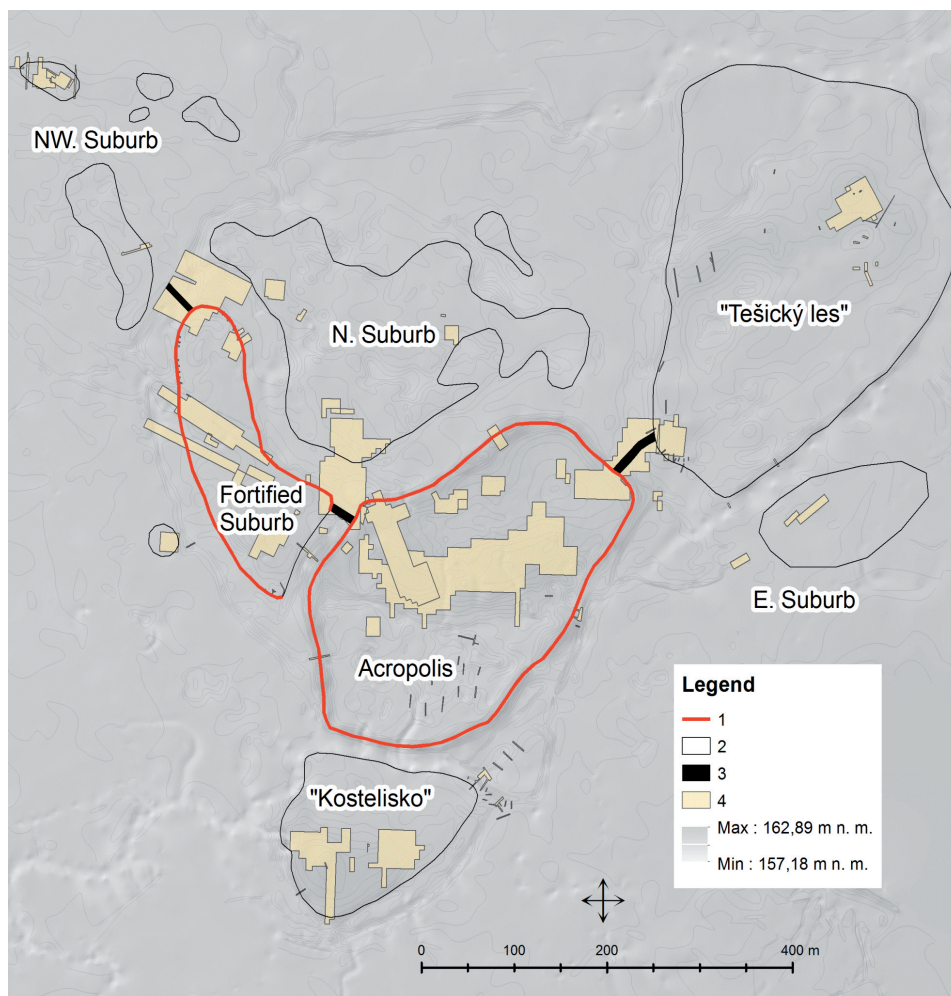


Fig. 1. Mikulčice-Valy. General plan of the fort with marked bridges. Legend: 1 – fortification; 2 – settlement areas; 3 – bridges; 4 – excavated areas

the paradigmatic assumption that residential buildings would be sunk into the ground as was the case in most Slavic settlements), and were thus investigated and documented as such. In addition, the impact of post-depositional processes, which have a major influence on the possibility and degree of preservation of stone components, was not fully appreciated (c-and n-transformation – compare. Macháček 2001, pp. 13-17; secondary anthropogenic disturbance caused by massive collection of stones from the front wall face, but also its natural sprawl outwards, see below). Part of the area was, due to the termination of excavations, only partially explored and its state was not documented.

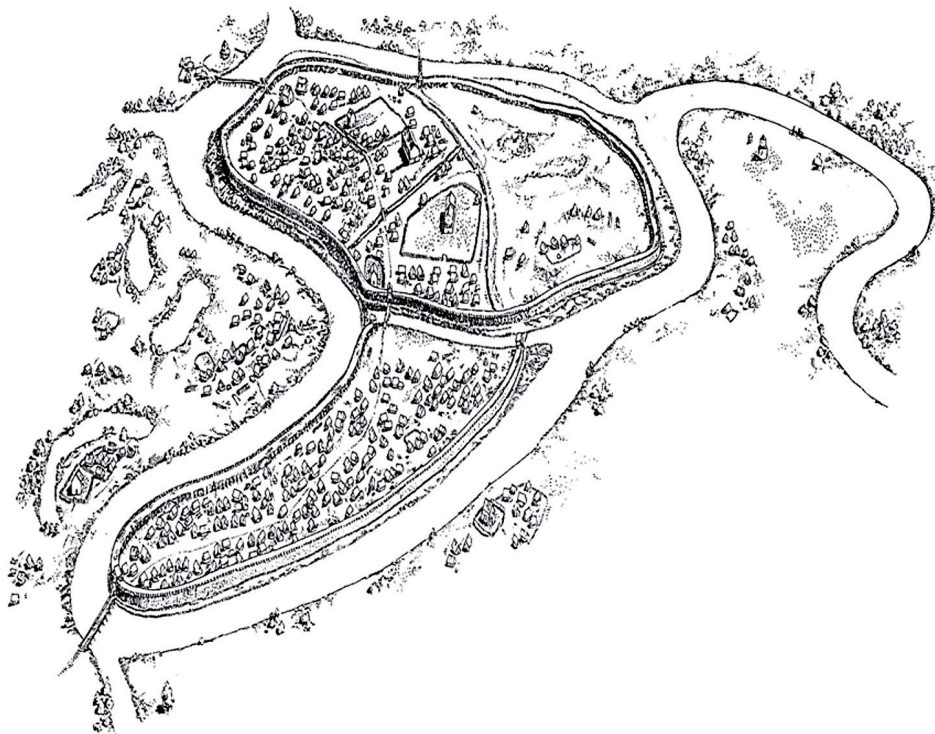


Fig. 2. Mikulčice-Valy. An ideal full reconstruction of the Mikulčice fort's fortified quarters at the pinnacle of Great Moravia (drawn by R. Skopal)

In the second excavation (area R 1963-1964, Fig. 3.2), the middle of the northern section of the fortification was chosen, which unfortunately turned out to be considerably disturbed by secondary modern activities (furnaces, see Mazuch 2012a). Besides that, the second half of the probe was not fully dug and the explored stretch thus included only a width of 5 m, i.e. one archeological square.

In the third excavation of the fortifications, in an effort at understanding the area around the NE gate and the surrounding settlements (area Z 1977-1981, Fig. 3.3), the defensive wall was excavated and evaluated even more sloppily than in the case of the first dig from the 1950s. The whole wide section was excavated and documented in a very inappropriate manner and its interpretations were considered untrustworthy for many years (see below, a detailed analysis in Mazuch 2012c).

The recent excavation of the walls in 2012 (area R 2012 I, II, Fig. 3.4) was forced by the construction activity of the local museum operating in the area of the settlement, and was therefore not a scientifically planned dig (everything was

subordinate to the construction project, be it the choice of location or the time and capacity constraints). The construction space also intersected with the above-mentioned unfinished dig from the late 1950s, which in turn reduced the information potential of the findings. Yet this modern research, for the first time in the case of fully exploring and excavating the fortification using the contextual methods (transformed and adapted to the specific stratigraphic conditions in Mikulčice), brought the most comprehensive findings of the extent of the walls, the method of their construction, and the „fate” of the fort after the sudden decline of Mikulčice as a center of power sometime in the early 10th century (see *M a z u c h* 2012b).

2. BRIEF SUMMARY OF THE INDIVIDUAL EXCAVATIONS

2.1. Defensive wall excavation, area Church II. 1955-1959 (area #2)

The section of the fortifications examined in the context of the graveyard at church II. became the first opportunity to discover the Mikulčice fortification. It took place in the early phases of the research while uncovering the burial ground around church II. The dig struck the wall in squares C1, C0, D2, D1, D0, E2, F2, F0 and partially also in the a0, b0 and A0 probes¹, northeast to northwest of the building (Fig. 3.1, 17). The excavations discovered remnants of burned and unburned wood in the entire area belonging to the clay-wood core of the walls (I use terminology by *P. Dresler* 2011, pp. 94-122 for the individual structural elements of the walls). The largest concentration of wood, oriented transverse to the outer wall forming a regular grate, was found in the F2 square. The wood was removed and the digging ended at this level in 1959. The excavation was only followed up by the above-mentioned new excavation R 2012 I, II (details below). In the first phase, while uncovering the walls, the wood in the original documentation was interpreted as partially recessed dugouts, which was reflected in the methodology and process of removing the terrain in this area for some time. After the stone layer was reached, the interpretation was reclassified as a „log-chamber” of the wall.

¹ The research results of these probes are not included in the overall assessment of the acropolis walls due to the used excavation methodology, site selection, orientation and shape of the probes relative to a given area, and especially poor documentation, which does not allow for a reconstruction of the findings. The probes were unfortunately very poorly placed in relation to the NW corner of the acropolis, where the wall runs in a significant bend around church II. and where it also joins a structure that connects the acropolis with the NW fortified ward over a probably artificially excavated trench (examples for comparison: *P r o c h á z k a* 2009, pp. 169-171, Fig. 109, 110.2; *P o l á č e k* 2012, pp. 29-30, Fig. 11, 12). In addition, the probe b0 partially intersected the area of the NW gate of the acropolis (again at an inappropriate angle – the SE edge of the probe cut through the gate diagonally). Probe a0's documentation is impossible to find. The situation here is very complicated for these reasons. However, the mentioned probes unfortunately also left very little intact for possible future revision dig of the whole of this important area north of NW acropolis gate (see *P o l á č e k, M a r e k* 2005, p. 48, Abb. 25 for the overall situation).

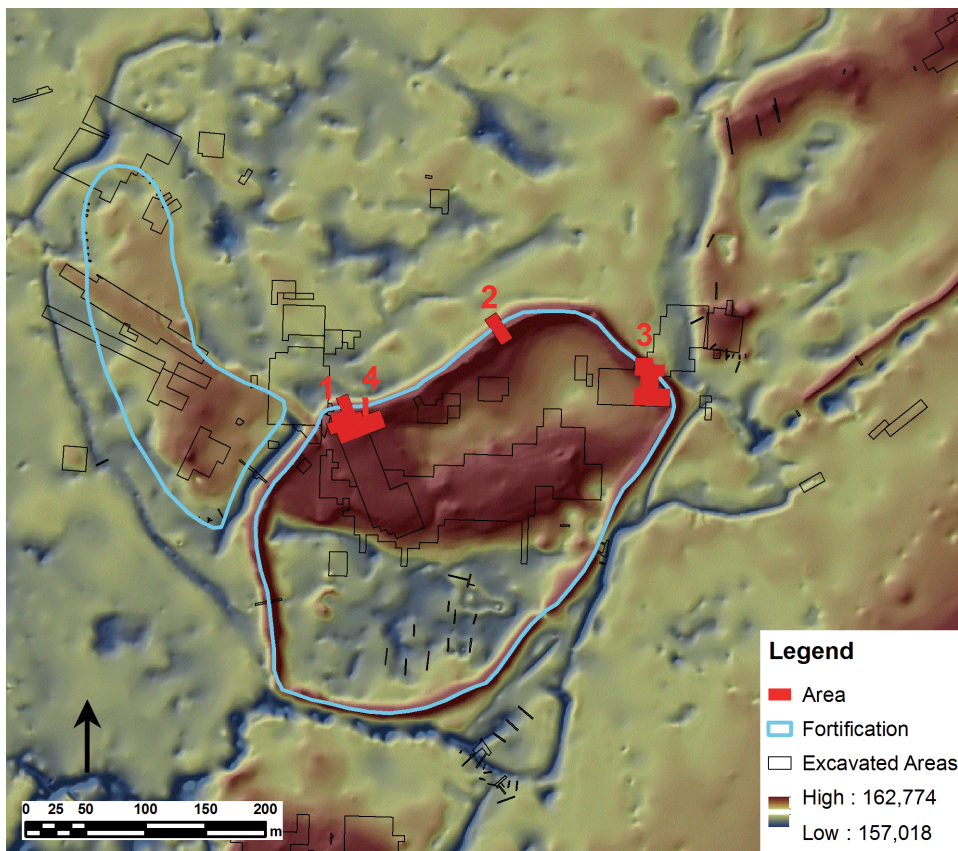


Fig. 3. Mikulčice-Valy. Previous excavations of the Mikulčice acropolis fortifications: 1 – NW section, area Church II. 1955-1959; 2 – N section, area R 1963-64; 3 – NE section–NE gateway, area Z 1979-1981; 4 – NW section areas R 2012 I, II overlapping the 1950s excavation

This interpretation is used in the description of the character of the Mikulčice fortifications in the first comprehensive work on the results of the excavations (Pouлік 1957, pp. 250-253). Here the author writes that at a depth of about 1 m from the top of the preserved rampart (the determined remainder of the original fortifications as affected by the post-depositional processes), „minor traces of wooden chambers measuring approx. 5 × 5 m were uncovered, with walls lined on both sides by sandstone blocks – the chamber walls – had obviously a log character, as shown by wood residues in the lowest layers” (Pouлік 1957, p. 250). Vertical poles, which in the case of the clay-wood core of the walls cover the back of the

fortification, were not sunk into the subsoil, according to J. Poulík². The question is, to what extent the lining of cross beams, allegedly in six-meter intervals, can be taken as evidence of the log structure, how this assertion is justified in the documentation and whether the lining actually involved only those beams with the stated distance from each other. During the Mikulčice excavations, though they were carried out years apart, it often happened that the excavated parts had been removed somewhat purposefully to support a specific working hypothesis or primary interpretation of the area (though not in the early years of research)³. The situation in the new R 2012 excavation, conducted only a few meters east of the described area, shows that, same as in other studied sections of the fortifications, the stones were placed on a grate over the entire surface, but very rarely between the beams (at their height level, not over them). There is no drawn documentation from the dig in 1950s of the dismantling of the wall or at least the parts of the base of the front wall directly over the grate. There are no beams or slabs lined on both sides by stones traceable in the documentation.

Whence then comes the original interpretation of chambered fortifications of the Mikulčice acropolis as published by J. Poulík (see quote above)? It should be noted that the research in the rampart grid squares D1 and C1 was conducted in the spring of 1955, i.e. at the very beginning of the regular Mikulčice systematic field survey. The first excavated feature of the greater rampart was a band of larger stones, transverse to the course of the later uncovered front wall, and coincidentally several boards of a regular grate crossed in two places by a longitudinally placed beam (with respect to the course of the wall)⁴. This situation was

² Nowhere in the original documentation, whether drawn or verbal, are there any pits left after such columns explicitly mentioned, nor are there any objects thus interpreted (see below for more on the back side of the wall).

³ We may mention two similar cases from the excavation area Church II. 1955-1959, which included the first survey of the walls. One is the so called church I., whose foundation is upon closer examination made up of only a loose grouping of stones that was through „appropriate” removal formed into some sort of wall (however, nowhere are there any traces of mortar). Similarly unconvincing is the interpretation of a group of stones within the perimeter of the remains of church II., which is intended to represent the rest of the alleged floors of flat sandstones (this area with rocks is utilized in the reconstruction of the findings of this church, which is part of the museum exhibit in Mikulčice till this day). The documentation shows that remnants of stone were located over basically the entire surface, but were again removed with the specific goal to form what was later used in the interpretation of the area. Such rearrangement, „supporting” the notions of wall faces or specific rectangular shapes in a tangle of rocks can be seen in the primary documentation of a wide range of Mikulčice digs (another typical example is found in the case of the „dugout” found in E2 at the very beginning of Mikulčice research, in a place which in reality contains the wood-earth core of the walls). In these cases, unfortunately, we can say that expectations color the results, which is, of course, the case not only in Mikulčice archaeological research.

⁴ The original description of the situation of finding these „wooden chambers”, which was later through the use of several mutually contradictory allegations interpreted to be evidence of a chambered wall structure, is as follows: „...During the exploration, we found residue of wooden beams at a depth of 60 cm in the southern profile. They were laid out east-west at a length of 100 cm. These, along with two crossbeams lying across them, form a rectangular frame 103 cm wide and at least 190 cm long”. Even if this was proof of the presence of chambers, which it is not, then how do these dimen-



Fig. 4. Mikulčice-Valy, area Church II. 1955-1959, from the NNW. “Stone chamber wall”. Intrusion of face wall stones into the rampart core (findings at the interface of the D1 and D2 squares, before terrain removal to the level of the destroyed face wall remains)

sions correspond to the alleged six-meter spacing between the transverse walls of each chamber, shown in the fully reconstructed form of the walls? It is also curious that J. Poulik (1957, p. 250) talks of chambers with dimensions of 5×5 m (?) in the first published report on this excavation.



Fig. 5. Mikulčice-Valy, area Church II. 1955-1959, from the SE. Uncovered base grate in F2 including the stones intruding into the rampart core. Remains of two Modern era furnaces present in the profile. The figure captures the section (after wood removal) uncovered during the rescue excavation R 2012 I. The profile on the right is the cross-section between the R 2012 I and II research areas; this photo fills in the blank on the lower left edge of Fig. 24, the furnace on the left is the same one pictured in Fig. 18 and 20

otherwise not entirely typical of the walls of the acropolis, as shown in all later conducted digs (similar band of larger stones has not been uncovered anywhere else, longitudinal beams or boards were rare within the grate structure – a more detailed interpretation of these beams is further in this article). The initial interpretation, designated a „working hypothesis” in the original documentation, speaks of „stone and log chambers”. Unfortunately, even in a situation where it was clear that this interpretation was untenable and probably completely wrong, the interpretation of findings and the way of uncovering the terrain itself was still forcibly subordinated to this assumption, which became some sort of paradigm. This way, the resultant overall interpretation of the excavation findings concerning the wall in the church II. area, contained in the original documentation, speaks of the „clay embankment, reinforced by a system of stone and wooden chambers. At various

depths, there were transverse and longitudinal beams and transverse rows of stones (low walls). These stone bands were *tentatively* labeled as chamber walls”. The only documented appearance of such a stone band, transverse to the main wall, was found in square D1 and partially in D2, but at a very shallow depth, only 30 cm below the removed turf (Fig. 4). That one of the cross beams or boards would overlap is not mentioned anywhere in the documentation. Nothing like this appeared in any other section of the investigated wall. The documented beam laden with stones would not suggest a log structure either (individual chambers divided by stones?) and there is no evidence for the six-meter gaps between these specifically laid „sealed beams”. We are talking about one and the same such stone band (the alleged „chamber wall”) in grid square D1. Its counterpart would have to lie in square C1, six meters away. There is a group of stones that form some sort of line in the desired direction, in accordance with a drawn plan. However, this element is hardly comparable to the stones from D1. There is another similar element jutting out into the core of the wall recorded both in photos and drawings in the F2 square, but as evident from the photos, the stones lie much higher than the wooden grate uncovered in the same area (see Fig. 5)⁵. The most important argument against the existence of the chambers is that these cannot be considered stone chamber walls, because the mentioned bands of stones are recorded only in a single horizontal level (representing just a band, not a wall of stones arranged vertically). In the case of the stone elements, It is either a random phenomenon that has nothing to do with any structure (although the photographs show that both square D1 and F2 do contain some rather large stones, forming a kind of line roughly transverse to the outer wall; additionally, there is one similar case in square C5 in the later excavation R 1963-1964, see below), or is it some specific element characteristic of the higher parts of the walls, which are unfortunately not preserved in this case (because of the aforementioned strong secondary anthropogenic activities – plowing, looting stones), or at least not preserved in places studied by previous excavations. These stones may have been used to load of some of the boards in order to avoid deformation (bending), or to even out faulty, bent boards and ensure stability and security of the wooden components in the wall. On the other hand, in the above two cases (squares D1 and F2) as well as in a third case (excavation R 1963-1964, N section of the wall), the stones are not placed directly on the boards. According to the photos, there is an estimated 20-40 cm thick layer of clay between the wood and the stones. Whether it was rare or common in the construction of the walls of the acropolis cannot be ascertained at this moment due to lack

⁵ It is quite clear that the documented remains of wooden structures in the core walls do not match the state of preservation. Only a cursory glance at the number of conducted area plans and the description of the terrain excavations shows, that the wood could not be observed in its entirety, or if it was, it wasn't appropriately documented. Only the level with the remains of the stone base of the wall front is documented in some squares, from which boards protrude forming the grate, but the level under the removed stones or any other lower levels are not recorded in the documentation, or was not conducted.

of proper documentation of the old digs and the very small area uncovered in the new revision excavation of 2012. I also think that the ubiquitous massive exploitation of stones from the outer side of the wall as well as those closer to the clay-wood core has a primary and fatal impact on this situation. The extent of this disruption is so severe that some sections of the acropolis wall may have been completely destroyed (this phenomenon is documented in all previous studies of the fortification – in detail in excavation R 2012 – see below).

The context of the verbal description of the whole situation in the original documentation shows that the initial concept of the chambered wall construction has been artificially maintained even while the regular wooden grate was being repeatedly encountered during the uncovering. The beams belonging to the grate were interpreted as sideways-crumbling walls of a chamber (where would it so regularly crumble in a core filled with clay?). It should also be noted that the above mentioned beams are really just thicker planks, as while their width was 20 cm, their thickness was just a few centimeters, according to results observed in the R 2012 dig. The idea of the building such chambers out of boards is also very unlikely. From the above working hypothesis, which is not very rationally based, J. Poulík's work „codified” the interpretation of Mikulčice walls as chambered, as it is cited in the introduction to this chapter (for doubts about this interpretation, see Procházková 2009, p. 173).

As for the core of the walls, the information gleaned from the documentation (if we ignore the created and criticized paradigm of a chambered wall) is not comprehensive enough to allow a reliable reconstruction of the original form of the core. However, the documented state corresponds to the findings of the new dig from 2012, where the structure of the clay-wood core seems to contain a grate supported in some places by beams laid across the boards parallel to the wall direction (see excavation R 2012 for details). However, a major new finding, compared to the published literature, is the fact that the reconstruction of the entire area of the fortification of church II. and the adjacent cemetery from the available documentation shows that the grate reached throughout the wall, which is confirmed by the new 2012 dig (see below). Because of that fact, it doesn't make much sense to argue against the existence of an important structural element of the fortification, namely wood that in some places was bound by the wall front (in which it was incorporated) with the back (inner side) of the fortification, or with the poles that kept the inner side upright (cf. Procházková 2009, p. 173 – mentions the need to include such supports in some places of the wall from a structural perspective). A revision analysis of the findings of the wall near the church II. excavation from 1950s, the same as the excavation of the area in 2012, prove that at least the base of the grate reached all the way to the rear side of the wall and that it may have been common to bind the front and the back of the wall in this way. The situation in the NE portion of the wall is in this regard unclear, given the quality of the research methodology, site access and uncovering process



Fig. 6. Mikulčice-Valy, area Church II. 1955-59, from the NNW. The findings from squares D1-D0. The mid-left shows the preserved original face wall before it was “repaired”, with skeletal remains No. 40-42 in front of it, the top of the stone substructure is in the foreground

documentation in the N region, excavated in 1960s, wood beams this long were probably not preserved.

In one of the places described in the first dig of the Mikulčice fortification near church II. (on the interface of D1 and D0), as described in the documentation, the front face of the wall should be up to four rows of stones, i.e. from the base line up to 65 cm, which is truly exceptional in the case of Mikulčice. However, the overall plan and side view photographs of the wall face show only a short portion (130 cm) at the NE side profile of the D band (Fig. 6), the height of the face is only 60 cm, but that according to the drawing documentation, it is up to 6 rows of stones tall. The front of the wall in all other excavations is shown as secondarily almost dismantled (see below). Given that the recent revision research of Mikulčice churches (being prepared for publication) sometimes „adjusted” the original uncovered situations (wall additions, plastering), which were then passed off as remains in situ, the height of this portion of the exposed wall is somewhat unreliable (“correction by technical research lead” is even admitted in the original verbal documentation). A look at the visual documentation supports this. The preservation of the walls is very visible and the adjustment is mentioned in the image caption... (see Fig. 6 before – and 7, 8 after these action). At no other area excavated so far has the preserved portion of the wall reached this high. The thickness of the front portion of the wall was estimated at approx. 1.5 m (Pouлік 1957, p. 251). But the original documentation mentions a height of 2 to 2.5 m, which corresponds to the findings in other areas of the excavation (the question remains whether this is the case only at the foot of the wall, while the wall might have been gradually thinner in the higher portions).

In front of the wall face, under the detritus of the wall front in the entire excavated area, a huge stone bulge, lined from the outside by three maybe four rows of stakes driven in to form a palisade, was gradually uncovered. The face of this stone structure was protruding about 2 m in front of the wall face, but it was not parallel to the wall. While the front face of the wall above runs almost in the E-W direction, the face of the lower structure is deflected at an angle of about 10° in the ENE-WSW direction. The top of the lower structure lies about 80 cm to 1 m lower than the foot of the wall above, while the foot of it is about 2 m from the foot of the wall above. The stone structure in the excavated area was about 1 m high and its thickness is from 2.8 to 3 m, while about 60 cm of it is set into the front wall of the above fortification⁶. The great weight of the above wall caused

⁶ Due to the state of the drawn documentation, however, it is very difficult to get any exact measurement data, most values are deduced from the documented profile between the squares of C0 and D0 (see Fig. 25). J. Pouлік published a wall cross-section near church II. (Pouлік 1957, p. 284, Fig. 43), also used by R. Procházk a (2009, p. 162, Fig. 105.1). This cross-section cannot be found anywhere in the original Mikulčice documentation of this excavation (in this article, it is Fig. 10). The image legend shows that the cross-section cuts across grave 200, i.e. square C1. The reasons for the absence of this plan are not clear to me. Unfortunately, this section of the substructure has an unusual (and quite unlikely) height, almost 2 m (!?) according to image analysis. This throws doubt not only on the scale shown in the image, but also on the cross-section itself. For these reasons, I disre-

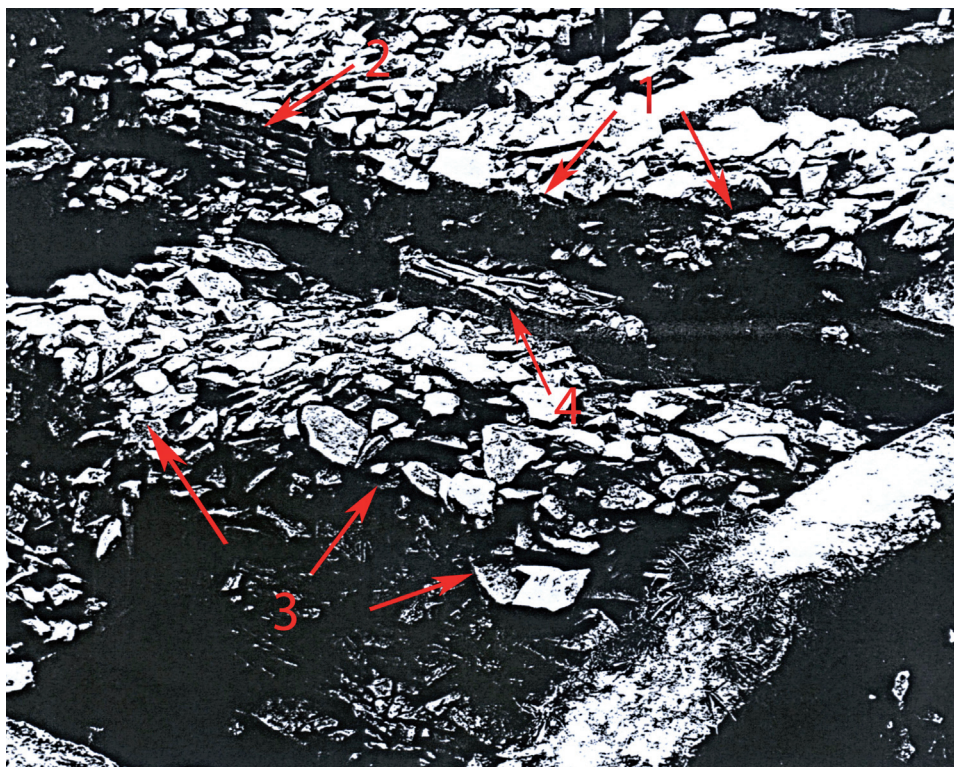


Fig. 7. Mikulčice-Valy, area Church II. 1955-1959, from the NW. Detail of the findings in D0. The original photo was unfortunately not preserved, but the low-quality paper copy presented still has great informative value.

Legend: 1 – face wall remains; 2 – “repaired” face wall, put forward as the most preserved portion of the Mikulčice fortification (cf. Fig. 6); 3 – the front edge of stone substructure; 4 – grave No. 262 (individual found on the top of the substructure directly in front of the face wall)

deformation, well recognizable even while the wall was being uncovered, which was mentioned in several places of the documentation. It was also observed in the revision excavation R 2012. The pressure of the weight of the wall on the infill and the structure under it caused the stones of the structure’s inner part (the part that is under the face of the wall above) to be compressed, in many cases also

gard the measurement data of the substructure from this cross-section in the overall evaluation of the Mikulčice fortification. Therefore, the only useful values can be deduced from the cross-section between C0 and D0 (Fig. 25). However, it should be taken as illustrative only, since the excavation R 2012, less than 20 m away from the disregarded cross-section, demonstrates that both the height and the width of the bottom substructure as well as its position relative to the face wall of the fortification varies (cf. data from R 2012). But it should be noted that the dimensions of the substructure in squares C0 and D0 and in excavation R 2012 are the same.



Fig. 8. Mikulčice-Valy, area Church II. 1955-1959. Detail of the face wall. Original on the left and very noticeable fresh masonry put up by a researcher during the excavation (see Fig. 6, 7)

deflected upward or even set almost vertically. The spikes on the wooden stakes in front of this stone structure were in some cases fully preserved (Fig. 9). Only imprints of these spikes were captured in the new excavation from 2012, situated about 10 to 15 meters to the east (see below). The question is whether the absence of preserved wood is related to the regulation of the Morava River in the early 1970s and the resulting decrease in the ground water level.

The back side of the fortification is almost never mentioned in the documentation of the area of the Church II. 1955-1959 excavation. The grid squares, which capture this part of the fortification, were excavated in the beginning of the Mikulčice research, in connection with uncovering an edge of the cemetery near church II. The issue of the fortifications, especially their back and core that was at the edge of the then clearly preferred research area containing graves, was not of interest at the time (for more on this issue see the conclusion of this paper, chapter 3.3).

Uncovering of all the basic components of Mikulčice walls that have been repeatedly found throughout the sections of the studied fortification, i.e. remnants of the stone wall face, its clay-wood core, the stone low structure in front of it and the few rows of side by side stakes driven into the ground to form palisades



Fig. 9. Mikulčice-Valy, area Church II. 1955-1959, from the N. Detail of the stone substructure face and palisades – originals of a few stake spikes preserved

set before the bottom of the stone structure, occurred during the first excavation phase. J. Poulík described the examined section very concisely in his first paper on Mikulčice. But his interpretation of the lower stone structure as an older part of the fortification was, according to new findings, wrong. Stratigraphic illustrations of the way the fortifications were built and the relative chronology of the various components of the walls, based again on the stratigraphic documents, show that the substructure was an integral part of the fortifications and that the whole fortification was built as a singular construction project. This interpretation was taken up by other researchers, including those who worked in Mikulčice and had the opportunity to revise this conclusion. Thus, the first to express doubt about the dating and the origin of the lower stone structure was R. Procházka in his work on the development of fortifications in Moravia in the early Middle Ages (2009, summary on 173-174). He mentioned that this is not an older wall, but an integral reinforcing part of the whole, otherwise typically Slavic, wood-earth fortification with a stone wall face. The revision analysis of the documentation as well as the new excavation in the NW section of the acropolis wall from 2012 undeniably prove R. Procházka's interpretation.

The overall findings, including the bottom stone structure and the rows of stakes, their spatial relationship with the front wall of the fortification (apart from the above-described unfounded interpretation of the chambers, and the alleged two-phase construction), were almost identical to the revision and research excavation in 2012. However, the position of the front wall above the foot of the natural slope and above the stone substructure is specific only to this NW section of the main wall of the acropolis. According to available documentation, the substructure in the other parts of the fortification is not as massive, it protrudes fully from the main fortification and its face lies on the top of the slope, not above its foot (see below in details).

Between the foot of the wall and the top of the stone substructure, on some sort of berm, lie remains of 4 individuals (graves No. 40, 41, 42 and 262), which seem to follow the contours of the historical terrain. The skeletons are very poorly preserved and show no signs of ceremonial burial (unburied on the surface?). This situation is repeated in digs R 1963-1964 and Z 1977-1981 (see below).

2.2. Defensive wall excavation R 1963-64 (area #18)

The second time the wall was investigated was in 1963-1964, but this time as a targeted excavation in the N section of the acropolis fortifications – Probe R 1963-1964 (Fig. 3.2), where the wall appeared to be highest, and thus stood the best chance of uncovering preserved wall remains. Considering the era the dig was conducted in, it is exceptionally well documented, and the documentation shows that a very useful methodology was chosen and maintained in its terrain excavation. Overall, this is one of the best quality excavations conducted in Mikulčice. It has not so far been systematically archaeologically evaluated (there is no findings report, there is only raw data documentation complemented by a detailed account of the overall situation; for summary see Poláček, Marek 2005, pp. 40-49; for more detail see Procházka 2009, pp. 161-164). The evaluation by R. Procházka can be used in its entirety. Probe R 1963-1964 was originally the width of two standard Mikulčice research squares, i.e. it aimed to expose a section 10 m wide. However, as already mentioned in the introduction to this work, the only fully dug section (to subsoil) was the C band, while the B band was terminated at the surface of the destroyed remains of the front wall face. Only an unknown depth of scattered stone was removed from the wall and smaller-finding probes were dug (see the overall plan, Fig. 11). The marked out grid squares do not fit into any of the geodetic networks used in the archaeological digs of the Mikulčice early medieval center, so marking bands as “B” and “C” (why exactly these letters) cannot be fully explained (maybe “A” was reserved for a possible dig extension to the east?). The probe length was 25 m, i.e. 5 grid squares in both bands (B2-B6, C2-C6). Although at first glance the wall seemed the most preserved, it has been shown early that of all excavations up till now, the selected area was probably the most

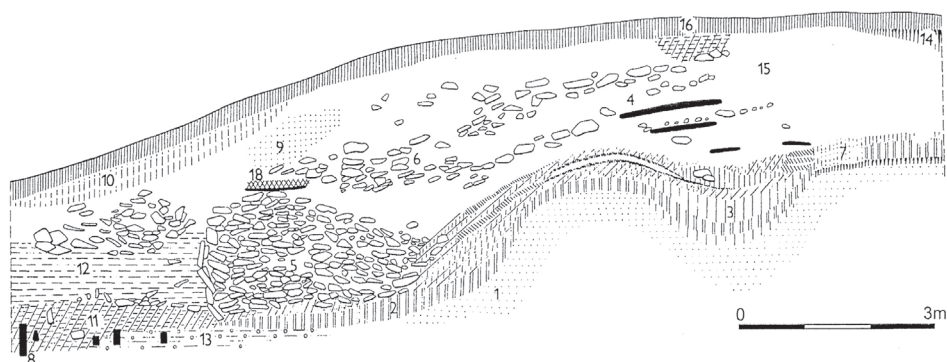


Fig. 10. Mikulčice-Valy, area Church II. 1955-1959. Fortification cross-section in squares C1-C0 (by J. P o u l í k 1957)

disturbed by intentional post-depositional processes (together with excavation R 2012 II). Probe C gradually revealed 6 modern clay and stone furnaces (stone taken from the destroyed walls) of various sizes and oval or circular cross sections (diameter from about 90 cm up to 120 × 170 cm). These furnaces were either recessed into the side of the destroyed wall (i.e. fully into the rampart), or have been built on its former surface. The furnaces can be dated back to the 17th century based on the found collection of ceramics and tiles. The disruption of the destroyed early medieval fortification while building similar furnaces, accompanied by both pottery and coin finds (dated into the same era), has been repeatedly observed in almost every excavation of Mikulčice ramparts. Based on statistical estimation (the ratio of explored perimeter wall containing the numerous furnaces to its total length), it appears that this disruption of the Mikulčice fortification, destroyed and abandoned for several centuries, can be considered prevalent. This activity was interpreted as a result of refugee settlement in this, given the fort's location in the Morava River catchment area (off the main roads), exposed area due to the devastating military actions in SE Moravia during the Thirty Years' War (for the issue of these furnaces and modern settlement activity see M a z u c h 2012a). It was also similar in the excavation at the walls of church II. (both in the 1950s and 2012); the dig at the NW gate of the acropolis, due to inadequate documentation, does not mention this issue (see below).

The investigated band C captured only up to two layers of masonry in the front part of fortification, just like the other excavations. The eastern part also uncovered two preserved layers in the face of the wall. Otherwise, the wall was destroyed by the above-mentioned post-depositional anthropogenic disruption, as in the case of the dig in the NW section of the acropolis fortification (it is even possible to distinguish the darker intervention into the clay in the main side cross-section,

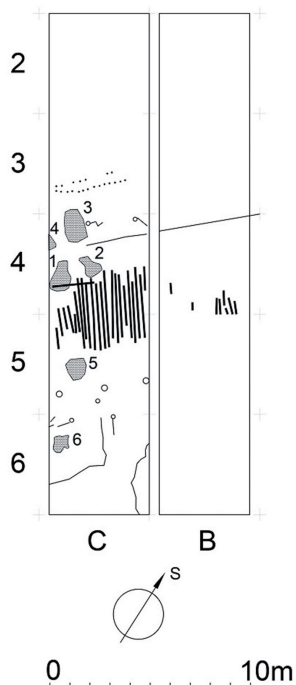


Fig. 11. Mikulčice-Valy, area R 1963-1964. Full generalized excavation plan. The sloping line marks the course of the face wall (above it are the holes left by the palisade), the thicker lines show the base grate and the numbers are modern furnaces, which significantly disrupted the situation regarding the Early medieval findings. Evenly spaced holes, left by wooden stakes supporting the back of the fortification, are noticeable between furnaces 5 and 6

which could be the result of stealing stones from the wall). The space between stones is in some places filled with clay, in other places, there is nothing (such as in the NW section in the R 2012 excavation). The width of the front wall at the base is estimated at approximately 2.7 m and the wall rests on the lowest of the four grates found in the fortification core (see general cross-section of this situation – Fig 12). According to the documentation, the underlying grate does not reach below the front face of the wall, but this rests on data from a single side cross-section, it is not known in the entire length (among other things, like in all previous digs, the longitudinal line of wood lying directly below the face, as it was uncovered in the 2012 dig, cannot be demonstrated). Similarly to the case of church II., in one place there is a protrusion of stones from the wall face into the core of the fortification (see chapter 2.1). It is parallel to the wooden grate, but lies above it (in the third layer of grates, see below), separated by a 20 cm layer of clay, which forms the main mass of the fortification core.

The best preserved parts of the core of the fortification of Mikulčice acropolis, especially in the vertical sense, were revealed in excavation R 1963-1964. It covered a grate consisting of 4 layers, the lowest of which formed the base of the rampart (the front wall rests on it, for the overall profile see Fig. 12). All grate layers are embedded in the clay layer containing nodules of iron and manganese, which corresponds exactly to the material of the main core, which fills the forti-

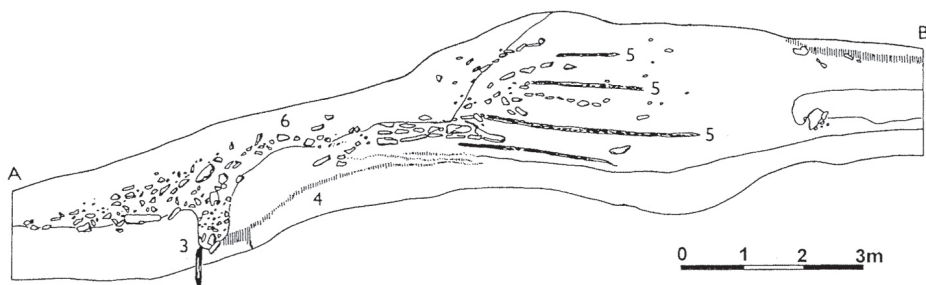


Fig. 12. Mikulčice-Valy, area R 1963-1964. Fortification cross-section between bands B and C (by R. Procházka 2009)

fications as revealed in dig R 2012. The distance between the bottom (I refer to it as grate 4 for simplicity) and the top grate (grate 1) was documented as 1.45 to 1.75 m. The height from the base grate to the top of the rampart is at most about 2.35 m. The inside of the wall was thus, in contrast to the NW section of the fortifications, disproportionately less affected by agricultural activities. The grates consist of planks placed transversely in the wall, which are about 10-20 cm wide with a gap between the boards of about 20 cm.

The 1st layer of boards was about 50-60 cm below the top of the rampart. The preserved outer edge of this grate was quite far apart from the imaginary line of the front wall face (about 3 m into the interior of the wall). The planks were 1 m long at most; they ended at about 4 m from the face. Of the 4 layers of grates, the top layer was the least preserved, which was expected considering the anthropogenic disruption.

The 2nd layer was about 90-120 cm from the top of the rampart. The outer edges are preserved up to 2.7 m from the edge of the front wall face, and end at approximately 4.6 m from it. So the longest planks are about 1.9 m long.

The 3rd layer lies about 65 cm under the previous one, about 1.55 to 1.85 m from the top. The wood begins at about 1.6 m behind the former wall face and ends at 5.5 m from it. This makes the preserved planks up to 3.9 m long. The ends are practically lined up so the grate end is noticeably parallel to the wall face. This either suggests a possible layered structure of the rampart core (the back of the top of the rampart would then be 5.5 m from the front wall face), which is suggested by the findings of R 2012, or it could be a radical post-depositional disruption (perhaps a single plowing in one furrow?).

The lowest 4th layer lies right under the front wall face and constitutes its base grate (see Fig. 13). It is placed about 40-50 cm lower than the 3rd layer, at a depth of about 1.95 to 2.35 m from the highest point of the rampart. It begins at about 90 cm behind the wall face (thus not directly under it, as might be expected, see above) and ends 4 m behind it. The planks are therefore about 3.1 m long. The



Fig. 13. Mikulčice-Valy, area R 1963-1964. View of the NE cross-section of the C band with the face wall and base grate uncovered (situation identical to Fig. 12)

entire grate is rather warped apparently by the weight of the front wall. There is a layer of only about 10-15 cm of the clay core under the lowest grate (the layer which contains all the grates). There is a very sharp disconnect between the clay core and the lower stratigraphic layer, which is interpreted as the ground of the settlement, much older than the time of the whole fortification's construction.

The R 1963-1964 excavation also revealed fundamental information about the back of the rampart. In the C band, at a distance of about 7.3 m from the wall face, 3 stone-lined holes were found, most likely left by wooden columns holding



Fig. 14. Mikulčice-Valy, area R 1963-1964. View of the NE cross-section of the C band, in front of the face wall. Easily visible face wall on the right, almost removed stone substructure on the lower-left (smaller stones easily visible), stones from the destroyed face wall above it. Skeletal remains No. 790 and 791 in front of the face wall

up the grating inside the rampart. The spacing between these holes is 2.4 and 2.6 m, they are about 30 cm in diameter and their flat bottoms don't reach under the rampart's clay core. This is important for the reconstruction of the back wall of the rampart, or at least its interface with the acropolis ground. During fortification construction, the clay was strewn wider than the intended (measured?) line of the back of the rampart. When evaluating the wall in the NW area near church II. and the graves there, it will be hard, based on the documentation, to make out

whether the older graves near it were covered up during the rampart's construction or if the graves were dug with the rampart in mind and were covered only after its destruction and sprawl inside. The situation is the same in the stratigraphically opposite case, where the graves dug into clay were taken as burial into the already destroyed rampart. However, based on the above, they could have been dug into the strewn clay behind the intended back of the rampart right after starting the construction, when the wide stretch of clay could have coincided with the ground level there.

Research in the N section of the acropolis rampart showed that the lower stone substructure changes its width throughout its course. According to the documentation (especially the verbal description), compared to its state near church II., it is only a narrow low wall here, whose width is very difficult to determine (it probably did not exceed 1 m wide and about 50 to 70 cm high – these values were recorded by an auxiliary probe in band B). During the construction, the stones were allegedly laid in prepared depressions, some kind of steps, dug into the outer side of the original slope. But in my opinion, this is inconclusive based on the available documentation. A major difference from the NW section, in addition to its width, is its position. It is offset in front of the wall by 2.7 m (the substructure thus does not extend below the front face of the wall). The foot of the structure lies about 1.6 m below the bottom of the front wall. According to documentation, the destroyed remains of the stone substructure were poorly distinguishable from the destroyed front wall of the rampart.

Lines of stakes were again found in front of this substructure, same as in the NW section. However unlike the situation near church II., this area showed only two layers of stakes. There are small pits left by the spikes of the stakes, which were driven 50 cm below the foot of the substructure. The spacing between the tapering spikes of one layer was about 30 cm, same as the spacing between the two stake layers. This means that the stakes were driven right beside each other and that there was no space between the two layers. It was therefore some sort of double palisade (compare a similar finding of excavation R 2012).

As in the previous dig near church II., there were human skeletons found immediately under the destroyed remains of the front wall, in the area between the foot of the wall and the top of stone substructure. The human remains were unceremoniously dumped here (graves No. 790 and 791 – one is not even prone and the other is on its belly, see Fig. 14).

There was a gray dirt layer with embers and white grains under the clay rampart core; the base grate lies at the interface of these two layers. Under this layer, in a sand deposit, remains of charred beams laid parallel to the course of the rampart in three strips were discovered: the first one is about 1.6 m from the face of the front wall, a less preserved second one is about 20-30 cm behind it and remains of the last one are at 6.6 m from the face, almost under the back of the rampart. This stratigraphic position is very similar to the situation in the excavation R 2012 (see below). The question is whether these are not remains of an earlier fortification.

2.3. Defensive wall excavation, area Z 1977-81 (area #51)

The excavation in the NE part of the acropolis lies on the edge of two other large digs; the N part of the dig Z 1977-1981, which investigated a gate, an adjacent part of the fortification and buildings inside the perimeter, and the SW edge of a dry river bed, dig K 1977-84 (Fig. 3.3), which investigated a bridge leading to a gate and the other bank containing “Těšický Forest” (for summary about the bridges, see Poláček 2012). So far, the only overall evaluation of the fortification and gate in this section is represented by a monograph by B. Kavánová (2003), which, however, primarily interprets the so called church XII.

This excavation encompasses the longest stretch of the acropolis fortifications (almost 40 m). However, search activities in the area were undermined by questionable methodology and insufficient documentation, especially when we consider that this dig was conducted in the 1980s. The quality and manner of documentation is mostly worse than at the beginning of 1950s. The priority of uncovering an alleged church, gate and graves instead of the fortification probably exacerbated the problem.

There was a problem of documenting physical layers without relation to the area (although the cross-sections are well documented, including layers, numbering and description, they are not given the relative placement in the archeological plan grid). Another problem is the separation of items found in a similar way, which means mixing of items from differing terrain layers or building materials together. Beside these problems, there was a very inappropriate conduct of documented cross-sections (which were mostly led along square boundaries instead of the natural orientation of the found remains). Auxiliary cross-sections, even though there seems to be enough of them, suffer from being conducted from an already lowered level (again without relation to natural context boundaries) and are missing additional information about the context above the section, how deep it was before it was removed and so on.

About 37 cross-sections were conducted in the area of the gate and its immediate surroundings. However, some of them document only the profiles of holes left after stakes and some of them are led in a way that gives no clue of the depicted area whatsoever. Apart from that, the cross-sections are very hard to localize; they lack geodetic heights on the vertical, and anchoring of the section to the planning grid on the horizontal plane. It is therefore very hard to find out which way they are oriented (in some cases, it is only possible on the basis of a comprehensive comparison of details with the planning grid). Their relation to the terrain is only shown in sketches, fixed to the Mikulčice planning grid (but these sketches don't mention their scale). Most cross-sections intersect many squares and the sketches of their orientation in some cases don't match the real cross-section length. The non-unified naming of layers is also a major hurdle for a comprehensive evaluation. From the documentation, which is the only data source remaining after the terrain excavation itself, it is very hard, if not impossible, to differentiate

or equate layers from different sketches, especially when multiple grid squares intersect (but commonly also in a single square). If we strictly hold to the conventions of these incongruently labeled contexts (the conventions are nonsensical, because if we lay out the plans to match the full spatial orientation, it is sometimes clear that differently labeled layers are really one layer), it is impossible to reconstruct the excavated area. In any case, because of that, the comprehensive picture of the situation is significantly tainted by subjective interpretation, skewed against reality.

There are absolutely no connections drawn between the descriptions of finding situations and stratigraphic relationships between neighboring grid squares. The author of the finding report, which is a starting point of all interpretations in further papers, didn't give any summary of uncovered situations, relationships or layers. She didn't even unify the basic description of each context with the original documentation. The majority of geodetic heights in the documentation are not recorded on the surfaces or borders of important contexts, i.e. on the bases of destroyed remains or the preserved pieces left in situ. Unfortunately, they are instead taken mostly on indeterminate levels of partially removed terrain layers or removed remains. Such geodetic heights are useless for any further evaluation, because they can be used neither to determine location, thickness or layering of an area nor the level of a stone structure base. This means that some statements used in the final area evaluation (Kavánová 2003) cannot be substantiated, for there is nothing they can be based on. When the documentation does not contain any other items than the drawn plans exhibiting the described problems, it is unknown what B. Kavánová uses to reach her conclusions. Some specific major methodical problems, reducing confidence in the conclusions reached concerning the fortification and gate in the NE area of the acropolis, are listed in detail by R. Procházková (2009, p. 164).

The examined section of the fortifications is 39.5 m long including the gate. However, due to its orientation and the shape of the excavated area, the full length is only uncovered on the back (inner) side of the fortification and in its core. Only 21.5 m of its front (outer) part, including the stone wall face had been uncovered. Therefore the only portion useful for the overall reconstruction of the fortification and gate is in grid squares 41 to 45/-19 to -21 and 42 to 44/-18, so 18 grid squares in all (squares 44/-21 and 45/-21 are part of K 1977-1984). But squares 41 to 43/-20, 41/-21 and 42/-21 are so poorly documented that their contribution to the findings is essentially nonexistent. Another problem is the lack of information on the state of the terrain at the end of the excavation. As has been repeatedly found in more recent excavations, even in the better documented areas, an image emerges in the revision digs, of unexplored low-lying areas above the subsoil. In the case of area Z 1977-1981, which is characteristic of the above mentioned lapses in documentation, including places where no documentation exists, the probability of an unfinished excavation of some areas is very high and the extent of these areas in future excavations is impossible to estimate. Not knowing the extent of

these areas presents a major problem for revision excavations (or for new excavations in areas neighboring these unfinished excavations). This problem makes new excavations harder and longer (see the case of R 2012 further down).

The stone substructure, including 3 layers of stakes, was again in front of the rampart. The distance between the front wall face (as it is interpreted and localized in the documentation) and the closest row is about 2.1 to 2.3 m. This structure lies at the very edge of the former river bed, somewhat lower than the foot of the fortification. The full width of the fortification, from the face wall to its back, braced against massive stakes spaced 2.4 to 2.8 m apart, should be up to 8 m, according to the suspicious reconstruction. The face wall alone should be about 2 m thick (B. Kavánová lists the width of 7.5 m and the face wall thickness of incredible 2.4 m – see Kavánová 2003, p. 219 and 216). But considering the state of the excavation's documentation, this cannot be considered true. The NW section of the fortification is so poorly documented that even the excavation author didn't want to evaluate it. "The section was excavated mainly in the south-eastern edge including the gate area" (Kavánová 2003, p. 213). But the NW section was excavated in the same manner as the SE one. However, it was, for unknown reasons, inadequately documented (see graphical representation of the number of the dug grid squares in Poláček, Marek 2005, p. 253, Abb. 252; the at first glance adequate documentation of square 43/-21 is only illusory, none of these squares concern the fortification); this is reflected, among other places, in the apparent discontinuity of both inner corners of the gate and the stakes which support the back side of the fortification with the NW section of the fortification (compare to Procházka 2009, p. 167). The face wall in the NW section is not documented and the outer N corner of the gate was apparently not preserved. However, according to the documentation of the opposite, SE outer gate corner, the corner's former position was found during the excavations. The object thought to be the SE section of the face wall is deduced from only one grid square of loose stone remains, which includes a thicker, pencil line. Whether it is the documented wall face in situ or just its destroyed remains on some level of the fortification (including the possibility of the wall face sprawling outward) is inconclusive from the plan grid alone. A documented cross-section (Fig. 15), which follows the SE edge of the excavation and intersects several grid squares, some of which are uncovered and undocumented, proves that the line may be roughly the genuine front wall face. The face is relatively recognizable from this already published profile (see Kavánová 2003, p. 218, Fig. 13). By projecting it onto the grid plan, it can be shown that the line truly follows the former front wall face – this makes it the only item, supported by documentation, which can be used to locate the front wall face in the excavated area.

The documentation of the fortifications is very uneven and non-systematic. It is very hard, without a primary analysis of the findings, to get a clear picture of the way the clay-wood core of the fortification was built. Similarly, nothing can be deduced about the structure of the core, for example the possibility of its stepped

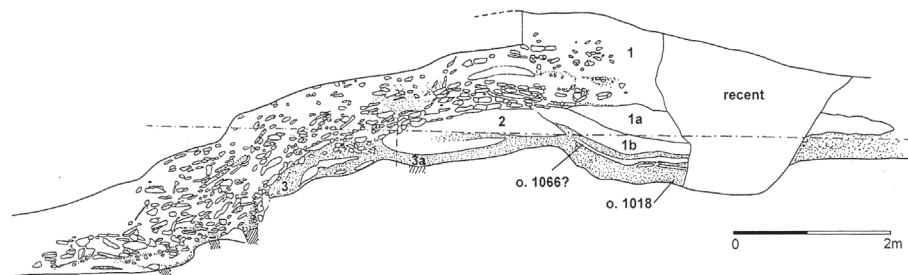


Fig. 15. Mikulčice-Valy, area Z 1977-1981. The only fortification cross-section in this area (by B. K a v á n o v á 2003); excavation labeled “recent” is in fact an archeological probe, dug before this cross-section was taken (it is only spatially located, with no other documentation!), this section of the rampart core was destroyed by the archeological “excavation”, leaving no documentation

nature, because of the inadequate terrain removal, or at least its nonexistent documentation. There were no transverse cross-sections of the fortification in the evaluated section. The only useful cross-section (Fig. 15, see above; it consists of a number of cuts, which don't connect directly and which are not put together precisely enough in the published documentation) is the SE edge of the area in squares 44/-18, 45/-18 (partially evaluated, undocumented), 45/-19, 46/-19 and 46/-20 (the last two also undocumented).

The techno-chronological characteristics of the fortification, as put forward by B. Kavánová, are convolutedly described and shown on cross-sections without any closer specification of their spatial and geodetic positions. From the photographs showing various terrain removal phases, which seem chaotic at best, and from the cross-section placement, it seems like nobody knew till the end that they were uncovering the gate and fortification running in the NW-SE direction. Almost none of the main cross-sections are oriented in a logical way, so that the monitored object is transverse to its course.

Similarly, the overall conception of the fortification, presented by the author (Kavánová 2003, pp. 213-219), is in my opinion overly complex, it mixes chronological and purely technical contexts and does not bother to localize them. It also does not consider the risks of a priori taking these probably technical contexts as fully relevant to the fortification construction or later additions and their chronological phases. I also reject the author's assertion of the two phase nature of the fortification, because I interpret the author's first phase, in agreement with R. Procházka (2009, p. 167 and 174), as one of the structure's integral parts – the stone substructure, which, however, does not have anything to do with its defensive function (as is the role of the substructure in the other sections;

B. Kavánová thus accepts the preliminary interpretation of J. Poulík, mentioned in section 2.1).

Similarly, the division of the second phase into “older” and “younger” phases, after confronting it with available information and author’s statements, cannot be considered relevant. This hypothesis, based on a local deposit described as „a more or less continuous layer of stone remains mixed with mortar” (Kavánová 2003, p. 217), is untenable, based on my analysis, i.e. the notion of structural phases is unsupported by available evidence (cf. Mazuch 2012c – contains a similar criticism of the problem).

The complicated description of sediments in the fortification core (Kavánová 2003, pp. 216-217) separating it into two parts – “rampart core” and “particulate part”, does not seem to be meaningful upon closer examination of the overall findings. It is certainly nothing more than a technical treatment of the selected area before fortification construction and the subsequent gradual filling of the clay-wood core of the fortification (R. Procházková 2009, p. 165 contains a similar observation). When we consider that the author does not deal with, in either her publication or the findings report (or even in the documentation), with interpreting the overall findings situation (except for the above mentioned, allegedly important, layer with mortar), including a stratigraphy analysis (not that there is enough useful documentation to perform one), the layer description above is somewhat purposeless, the same as the unprecedented separation of the core into two layers. Transitions between the deposits of the core, as well as the layers between them, show rapid successive layering, which is irrelevant to chronology (cf. detailed documentation of the rampart core stratigraphy in excavation R 2012).

Because of the way the excavation was conducted and the state of the documentation, we do not have any relevant data that would justify us to conclusively determine the shape of the fortification, its height or even the most basic data, its dimensions. The projection of the only (!) complete cross-section of the rampart in the almost 20 m studied section of fortification near the NE gate of the Mikulčice acropolis into the planning grid and its correction by means of other available data (see Mazuch 2012c) allow us to revise the width of the rampart in this section. It is, in my opinion, the most accurate reconstruction of this section of the acropolis fortification that can be obtained from the incomplete documentation. But without a new field excavation, it is still only an estimate. In the revised conclusion, the total thickness of the rampart from the face wall to the back is about 6.9 to 7 m, which doesn’t correspond to the estimate by B. Kavánová (7.5 m; 2003, p. 219), but does to the correction by R. Procházková (2009, p. 173)⁷.

⁷ Rampart and gate reconstruction, based on the overall 1:200 Mikulčice plan (published for example in Poláček, Marek 2005, p. 257, Abb. 256), places the face of the rampart more to the NE, which makes the rampart thickness 8 meters. However, this is an unsupported and unrealistic variant. The plan was created in the past from the individual grid squares and was idealized and edited to fit the needs of the former excavation leader (in some cases, objects and their timelines were distorted, which led to a false impression of a higher settlement intensity).

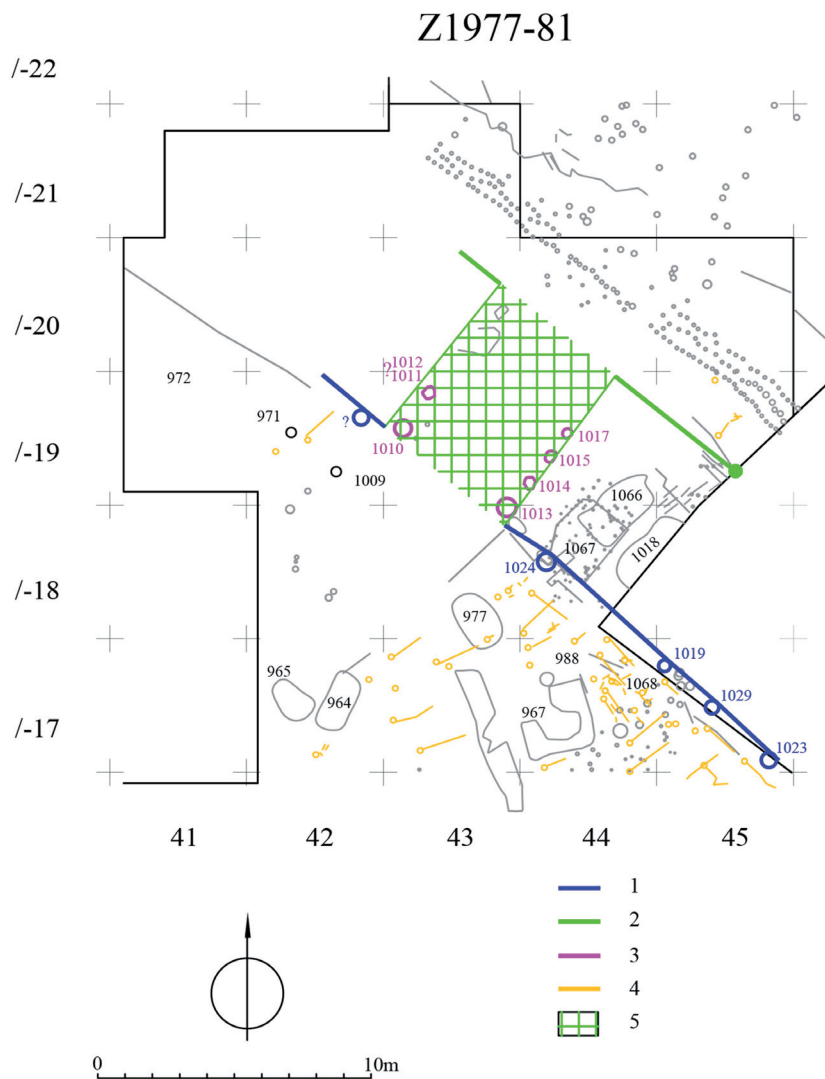


Fig. 16. Mikulčice-Valy, area Z 1977-1981. Full plan of the area including a reconstructed course of the fortification and gateway (by Mazuch 2012c). Legend: 1 – course of the rear of the rampart with supporting stakes; 2 – reconstructed course of the face wall and stones of the gateway; 3 – stakes from the structure of the wooden gate itself; 4 – graves; 5 – area of the gateway through the wall

The clay-wood core of the ramparts is not documented in the whole studied NE section of the acropolis fortification. There is no evidence upon which it could be reconstructed. This also means that its step-like structure cannot be ruled out (more on this in the conclusion). The only remaining, indisputable element of the

ramparts in this section is the series of regularly spaced wooden stakes, which supported the back (inner) side of the ramparts, standing 2.4 to 2.8 m apart (see Fig. 16).

The stone substructure with the three layers of stakes, lining the studied part of the fortification in this NE section including the gate, cannot have any defensive function, considering its size. B. K a v á n o v á (2003, p. 216) describes it as having a “simple face” and as being 45 cm high. However, the claim about its front face cannot be substantiated in the documentation and it doesn’t correspond to the findings of later excavations. The same goes for its height, because of the typical absence of any commentary about the drawn situations and their placement in the indeterminate places of the already removed material. The only supporting evidence of the above mentioned height consists of the placement of skeletons numbers 1491 and 1499, whose limbs were directly on the surface of this substructure. It is evident from the findings that both persons were unburied (perhaps evidence of Great Moravian Mikulčice’s violent end? – cf. M a z u c h 2012b) and were lying on the terrain level when the fortification was still standing. After comparing all pieces of evidence from the available documentation (detailed view M a z u c h 2012c, p. 78), it seems that the substructure was about 50-65 cm high. Its documented preserved width varied significantly between 1 and 1.8 m. But evidence from the incomplete documentation is also disputed for this. Due to its location relative to the course of the former river bed, on whose bank the substructure reportedly stood, a strong influence of post-depositional processes is very probable. These processes could result in local collapse of the substructure, including the stakes, into the river and their subsequent transport downriver. This means that the historical thickness of the substructure may never be conclusively established in case of a reconstruction.

In the space of the bridge leading up to the gate, the 3-layers of stakes were reduced to just one (the innermost one, see Fig. 16). It is hard to determine if this finding truly reflects the reality or if it is caused by an inability to recognize/find the other stake-holes during the excavation. The presence of a line of stakes points to the fact that the stakes and even the stone substructure could have been built before the bridge itself (however, these two actions should not be taken as chronologically significantly different, they could have been built subsequently) and that the substructure didn’t reach the height of the bridge deck. From a practical standpoint, the innermost palisade (assuming a slope) would be more of an obstacle for the bridge than the other lower-lying ones. Additional stakes could have been used to strengthen the bank in indeterminable time intervals, as required by the river bank erosion (cf. P r o c h á z k a 2009, p. 167), although there is no evidence to support this. From personal experience during excavation R 2012, it is very hard to recognize the imprints of stake points at or below the water level.

Part of this excavation was also the gate, a passageway through the fortification onto a bridge, leading into the unfortified space called “Těšický Forest”. I deal with the gate in detail in a separate paper (M a z u c h 2012c), but because it is

a part of the fortification, I will mention the important findings here. The gate itself was flanked with stone on both sides. The width of this gap from wall to wall, which contained the wooden gate door, was about 5.6 to 5.7 m. If the excavation found all the stake holes belonging to the gate tower, then the gate was thinner than the thickness of the rampart. Its outer edge was then inset about 2.6 m behind the face wall of the fortification (the wooden bridge probably started right at the line of the wall face), while its inner edge lined up with the back of the rampart (see Fig. 16). The gate's passage would then be about 4.5 m wide and 4 to 4.1 m deep.

2.4. Defensive wall excavation R 2012 I, II (area #91 and #96)

The excavation R 2012 I and II was part of an archeological field campaign in 2012 (the largest since 1989), which was the result of significant building activity in the fort's authentic terrain in connection with changing building exteriors and the whole area of the Mikulčice Grand Moravian fortification, which was nominated as a UNESCO World Heritage Site. This construction project placed underground rainwater drainage systems under the explored areas of the church II reconstruction site (against the better judgment of the National Heritage Institute and the Institute of Archaeology of the Academy of Sciences of the Czech Republic, Brno). The threatened area overlapped research grid squares F2, F1, F0 (with a minimal overlap into F3 and G3), which were excavated in 1959 during the research of the church II. area (Fig. 3.4, 17). Conflicting information in all available sources about the area and only partial excavation of the mentioned squares meant that any new excavation in the area would be complicated. Because of uncertainties regarding the level at which the research was terminated in 1959 (for reasons unknown), the first new excavation was in that area – called R 2012 I, #91 (here in after „area/probe 91”). It captured the SW half of the whole rectangular area, diagonally divided (Fig. 17); the planning grid of the church II. with its adjoining graveyard and fortification had a peculiar, unfortunate orientation – the reasons for this orientation are unknown. All conducted excavations of the fortification from 1955-1959 are thus diagonal to its course. This excavation also verified the state of the already excavated part and was used to find the best way to evaluate the second, still intact, part of area – R 2012 II, #96 (here in after “area/probe 96”), where work would begin after finishing the excavation of area 91 and its documentation.

The excavation was for the above reasons conducted as a rescue operation, with all the negatives that come with it. This included the strong time pressure and the forced use of unskilled workers due to the absence of Mikulčice archeological technicians, who were occupied with a revision excavation of the churches. The consequences were much harsher because of the very complicated stratigraphic situation, with the fast succession of contexts and the numerous modern disrup-

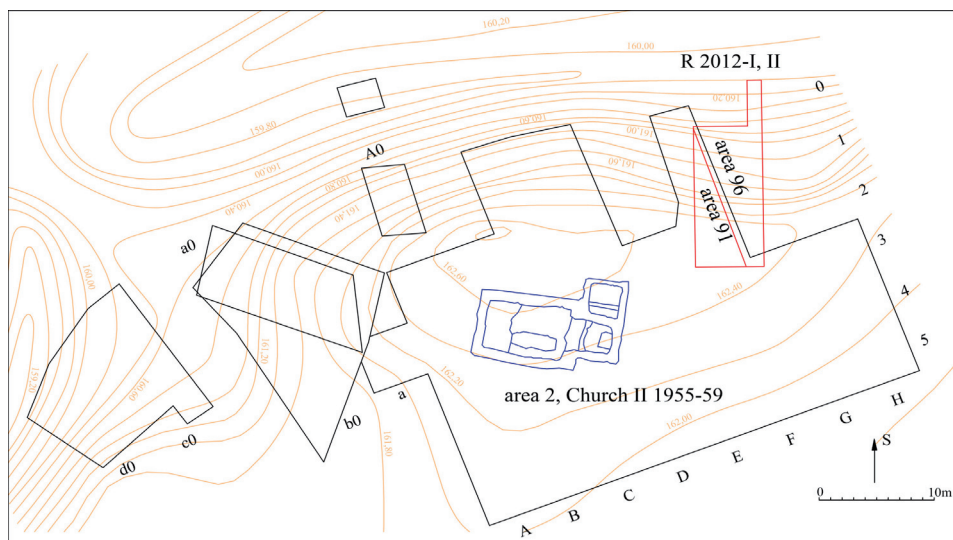


Fig. 17. Mikulčice-Valy, area R 2012 I, II. Detailed location of the excavation in relation to the Church II. 1955-1959 area. The extension along the east profile dug by an excavator at the end of the archeological dig

tions, including the recent work of the previous excavation in the 1950s on much of the area. This made the terrain evaluation and assignment of artifacts to their respective contexts much harder. The excavation area, threatened by construction activity, was deliberately oriented transverse to the course of the rampart (to get a transverse cross-section of the fortification – the longer axis therefore does not correspond with the compass directions; it deviates from N-S slightly). The planned dimensions of the probe were 15.5×6 m, but in the end, only 13 m were excavated (measured from the S edge of the probe area at the back of the fortification towards the front). The excavation of probe 91 was ended at the front of the loose destroyed remains at the foot of the slope, because the rest of the area was again excavated previously (it seems that the 1950s excavation, in the F band of the old grid, was always terminated when significant loose stone remains were encountered; while the digging continued further where these stones weren't encountered). In probe 96, the planned area was fully excavated in its entire width up to 11 m, i.e. up to the stake palisade in front of the stone substructure and partially up to 13 m (again from the S edge). In addition, primarily because of time constraints and rising ground water, a probe was excavated by machine along the eastern edge up to 17 m to evaluate the former river bed, which should have surrounded the acropolis in this area. But because of the ground water, it was not possible to finish it. However, many samples were taken for further analysis and wood, some of it showing tool use, was found (could be roughly dated using C14). But this probe,



Fig. 18. Mikulčice-Valy, area R 2012 I, II. Detail of a modern clay furnace, found on the destroyed remains of the face wall (W profile of probe 91); the furnace was already uncovered by the Church II. 1955-59 excavation (cf. Fig. 5)

despite the flooding problems, showed that there really was a river flowing through this area.

Probe 91 captured squares F0 to F2 from the 1950s excavation. It turns out that the excavation always reached the level of loose stone remains, which covered the area at different depths depending on the gradient and configuration of the slope. Only in the southern area, which is the clay-wood core, were stone remains removed along with a layer of burnt wood from the base grate (the grate is documented in the original plans and in photos – see Fig. 5, which agrees with the partially dug area in this area as well as the intact area in probe 96, where the wood can be found behind the rampart's face wall). On the slope, directly above the stone remains, near the Z profile of area 91, a block under an asphalt-cardboard sarcophagus remains, which contains two furnaces found in situ (see Fig. 18 – a closer look at one of them, intersecting the Z profile, 19, 20 and 5). The bottom remains of other furnaces were also found in area 96. These furnaces are, the same as in the previous excavations, part of the early modern settlement of the area (see Mazuch 2012a).

Digging through the rampart in the immediate vicinity of church II. shows a somewhat different finding situation than the previous excavations. The difference is mainly in the stratigraphic succession of the materials in the rampart core and in the stratigraphic relationship between the rampart components themselves and

between them and the surrounding, older contexts. All the new documented cross-sections of the destroyed rampart (there are three full cross-sections on the W and E part of the dig, and a cross-section between the two probes 91 and 96, diagonal to the excavated area) show similar findings as were documented in the rampart section near the excavation of church II. in 1955-1959 (which was misinterpreted, see section 2.1).

The rampart in the area of excavation R 2012 again uses the mild natural slope of sand deposited by the river and partially by wind (the whole N area of the fortification shows deposits of fluvial sand and gravel – remnants of river action some unknown time before the Early Middle Ages). The fortification stands on the elevated sand layer, but the front part of the rampart lies above the slope, which was leveled using various materials before the construction. The front part therefore lies above the foot of the slope, which seems like a statically and structurally disadvantageous placement (same finding as in the case of the area Church II. 1955-1959; cf. Procházková 2009, p. 174). The materials used, as mentioned above, are heterogeneous in nature. Right above the ground of the area lies a sandy backfill, which contains remains of the lowest wooden grate (fragmentary remains, see below), right above that are clay and sandy clay materials, very similar in nature, thus rather hard to distinguish (mostly differentiated by their color). These layers are irregularly interspersed with thin humus layers, which contrary to the above mentioned, archeologically barren contexts, contain mostly archeological and paleo zoological materials – shards, mortar fragments, concretions of ash, cinders and a number of animal bones. Other finds are rare compared to common settlement contexts in Mikulčice. This shows, coupled with the great variety of ceramic fragments and the heterogeneous character of these thin layers, that waste material may have been used as a secondary material in building the rampart core, with the primary material being the clay common in areas surrounding the settlement. So most of the rampart lies on the older settlement layer (the upper plateau and top of the slope) and the rest of it is on the sand and gravel (the slope). Whereas the rest of the structure (the berm, stone substructure and palisades of stakes with triangular and diamond tips, see below) lies under the slope, above a not very thick muddy, clay layer, which seems to be alluvial silt. This may be evidence for a waterway going through this area (the collected samples should help with further interpreting of this layer). Under this well differentiated layer is the sand and gravel subsoil, which was undoubtedly molded by a river (in the distant geologic past).

The above mentioned layers were interleaved with boards, laid transverse to the course of the fortification, which are only a few centimeters thick and about 15-20 cm wide with the space between them also about 15-20 cm. These relatively thickly laid planks form a regular grate. The question remains how accurate the above dimensions are, when the board remains were so poorly preserved, and in some places charred. The presence of boards may be surprising, but based on the evidence (including earlier excavations), they cannot be interpreted as anything



Fig. 19. Mikulčice-Valy, area R 2012 I, II. Overview of the uncovered base of the face wall, standing on a wooden grate over lengthwise laid boards, probe 91 from the NE; the row of stones in the upper-left corner was left in situ – it follows the inner edge of the face wall and shows its thickness at its base. The cross-section prominently shows a modern furnace (see Fig. 18) and a covering layer from the 1950s excavation

else (neither beams nor logs). There are only 2 layers of preserved remains of the grate in the NW section, but the rampart was secondarily disturbed, so the other grate layers could have been destroyed by the removal of stones after the fortification's demise or by early modern and modern tillage. In the front part of the rampart, the transverse boards were laid on length-wise placed long boards (in some places, there were two such planks, laid alongside each other), and thus formed the front line of the base grate. The face wall rested on these and its weight was thus distributed along the grate (Fig. 19). The findings show that the wall was placed directly on the wood (detailed view on Fig. 20). The transverse boards of the base then stuck out underneath the face wall. The length-wise boards were also found further back in the rampart, both where the slope begins (roughly behind the predicted internal side of the face wall) and further back, against the stakes holding the back side of the rampart). Many boards (the length-wise wood may have even been beams) were scarred by flames, though some sections of the wall had unburnt boards. But in both cases, the wood was unsalvageable. But the number of preserved components in the clay is much greater than those found in the sandy layers (the rate of preservation is similar for not only organic materials, but also for bones). The sandy material, which sits on the older and in this exca-



Fig. 20. Mikulčice-Vally, area R 2012 I, II. Detail of the base of the Mikulčice fortification face wall from the N. Legend: 1 – face wall; 2 – base grate; 3 – top of the stone substructure in the beginning of the dig – extension of this structure under the rampart is apparent here; 4 – modern furnace (see Fig. 18)

vation maybe the only base layer (stratigraphically lowest of the layers), is found in the lower parts, so the preservation rate for the wooden components there is the lowest and mostly fragments are discovered.

The stones of the face wall were found to be placed in only three rows in probe 91, but despite this, the foundation of the wall is well established (see Fig. 20, 26, 27). The width of this wall is hard to reconstruct. However, remains of the placed stones point to a width greater than the older excavations revealed (up to 3 m in this section; documentation of other sections mention widths ranging from 1.5 to 2.7 m). The fragmentary preserved portion of the wall in probe 91, disrupted by secondary interventions and mostly dismantled for stone, does not permit even a rough estimate of its height; it is virtually impossible in case of area 96, as it is much less preserved. Given evidence of its dismantling for stone, the height of the wall cannot even be estimated based on the volume of its destroyed remains, because it is impossible to know how much of the stone was secondarily removed.

The new excavation, in my opinion brought a very important piece of data, which is important for the reconstruction of the form of the rampart's core. It is the above mentioned discovery of holes left by wooden stakes lined with stones, which were buried in the clay core up to their tips, with their bottom between the



Fig. 21. Mikulčice-Valy, area R 2012 I, II. Photo of the surface of uncovered stone remains in probe 91; face wall in the middle, partially uncovered grate on the left, stones of the sub-structure on the right

planks of the base grate (Fig. 22, 23, 24). The distance between the stakes and the face of the rampart is about 6 m. This raises the question whether the core had a „step” there in the back, held possibly by a plank wall supported by the buried stakes. A charred beam was found, oriented parallel to the imaginary line connecting the two discovered holes⁸, left by the stakes, found in the lowest sandy

⁸ The first hole, lined with vertically placed stones, was uncovered in the main W profile of the excavated area (Fig. 22). It was apparently left unevaluated on a shelf in otherwise removed terrain from the 1959 excavation and reburied without any documentation (either in the drawing of the containing grid square, or in a written description). The second hole was found in the previously undisturbed terrain of probe 96, on the other edge of the excavated area, in the E profile (it is actually two stakes side by side, lines with stones, see Fig. 23). Given the significant 5.5 m distance between them, and the finding that the whole southern side of probe 91 was excavated in 1959 and only poorly documented, it is probable that another hole on the line between the other two was unrecognized, or was „at least” not documented or left *in situ*.



Fig. 22. Mikulčice-Valy, area R 2012 I, II. Stone-lined stake, supporting the stepped back of the rampart core in the main W profile (probe 91). It turns out that the stake hole was not fully explored and was left in situ and buried by the 1950s dig. This hole was cut in half during the mechanical removal of the undocumented covering material in the W part of the new excavation (cf. Fig. 23)



Fig. 23. Mikulčice-Valy, area R 2012 I, II. Lining of two stakes supporting the stepped back of the rampart core near the E profile (probe 96), viewed from the S

part of the core. The beam is parallel to the connecting line between the holes, yet placed much lower than the base grate, same as the bottom of both stake holes. The beam is therefore not a direct part of the rear plank wall of the presumed step of the clay core of the fortification. For this reason, the greater age of this wooden component cannot be ruled out (maybe remains of an older fortification?). But if that is the case, then it is surprising that it was found up against holes of the stakes, which are thought to have held the presumed step on the back side of the rampart's core. Therefore, I am inclined to think that it is a lower part of the wooden structure in the rampart core, which does not reach under the higher base of the face wall and is only a strengthening element. On account of the fact that it was found in the sandy part of the core, it is not well preserved⁹.

Similarly to the case of the area Church II. 1955-1959, the stone substructure found during excavation R 2012 was found to be separated from the face wall of the rampart by a layer of the same clay as was used in the rampart core. The stone substructure lies horizontally under the face wall, it is not offset from it as is the

⁹ Other than the described beam, there were also fragmentary remains of more charred wood, placed length-wise and boards placed transverse to it in the whole area of the R 2012 excavation. These may be remains of a lower level grate under the previously found wall base grate (?).

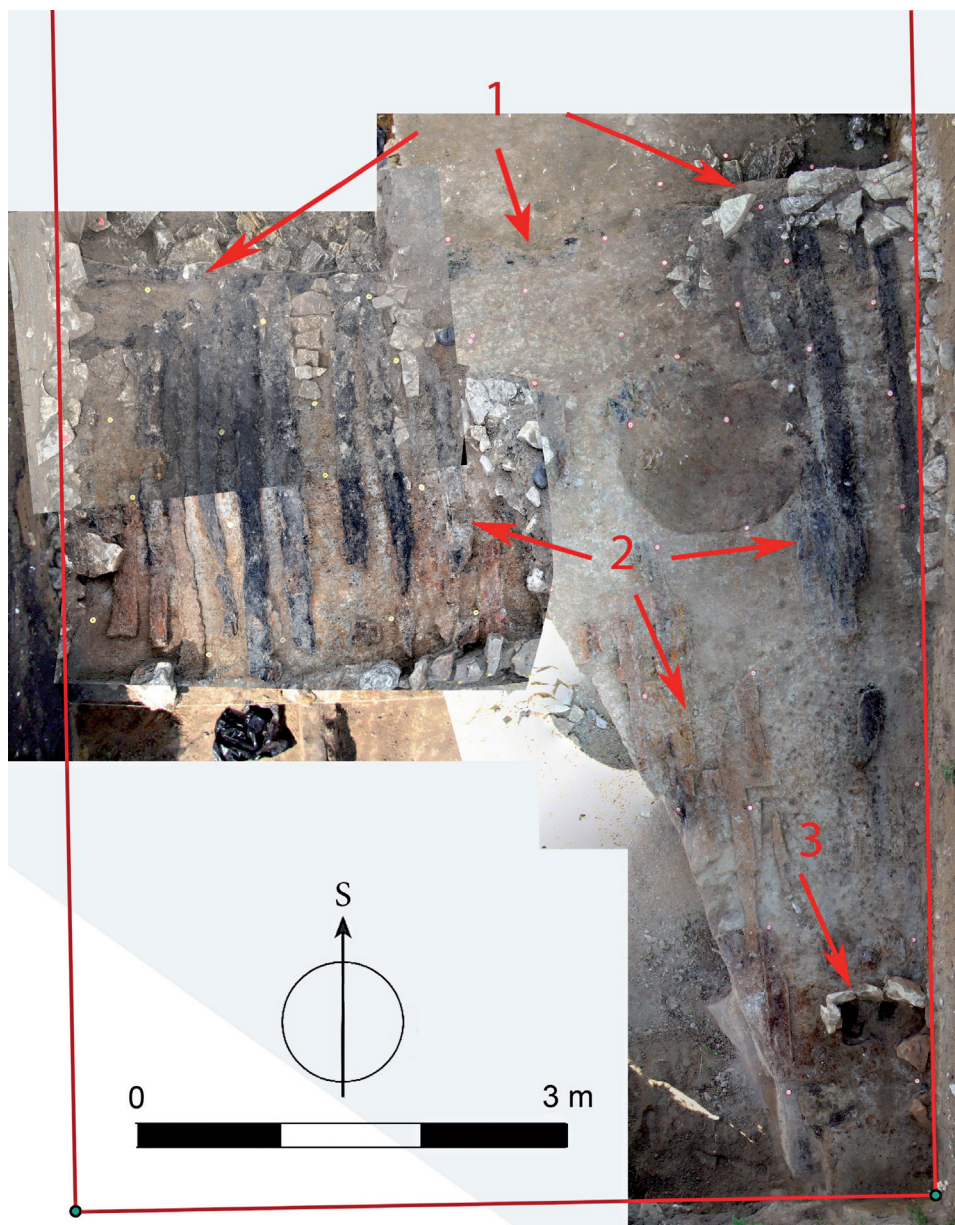


Fig. 24. Mikulčice-Valy, area R 2012 I, II. Overview of the remains of uncovered wooden grate in probes 91 and 96 (red line is the excavation border). Legend: 1 – lengthwise placed boards under the face wall; 2 – transverse base grate (the photograph highlights the contrast between the burnt and unburnt boards); 3 – two side by side stone-lined holes (see Fig. 23 – the back of the stepped core?); in the SW part, in probe 91 (blank space), the wood of the grate was removed by the 1959 excavation (cf. Fig. 5)

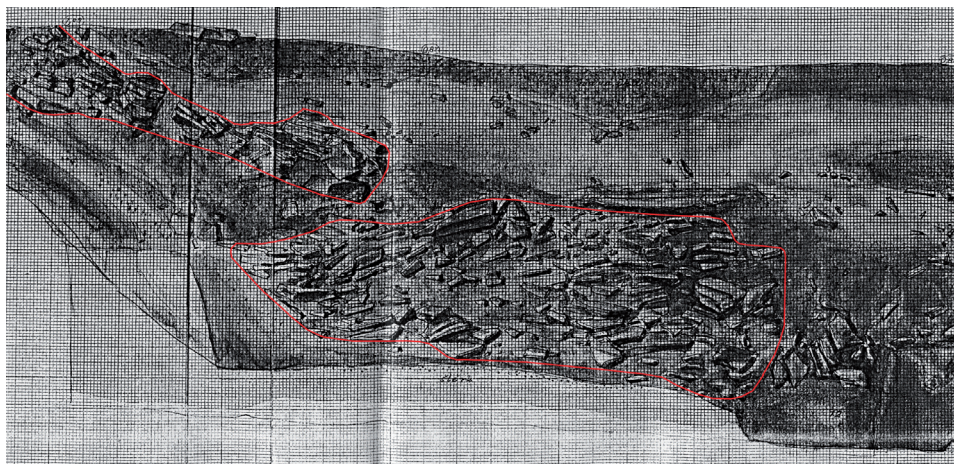


Fig. 25. Mikulčice-Valy, area Church II. 1955-1959. The only documented cross-section of the rampart with documented stone structures in this excavated area between C0 and D0. The remains of the pressure-deformed face wall and substructure are highlighted in red.

case in the other excavated sections of the Mikulčice acropolis fortification (cf. Fig. 25, 26, 27). The width of the stone substructure is about 3.2 m and it is about 80 cm high. Its inner edge reaches about 60 cm under the face wall of the rampart and its outer edge is 2.6 m out from it. The height difference between the foot of the face wall and the top of the substructure is about 80 cm (this is a step of clay, upon which the base grate and the face wall of the rampart rest; the value is estimated from the former location of the foot of the face wall – in all studied sections, the face bends down considerably, probably due to its weight – see cross-sections on Fig. 25, 26, 27, 19, 30). The substructure in this section deviates from the W-E course of the rampart by about 15 deg. in the WNW-ESE direction (cf. conclusion chapter 3.4).

The lower substructure is in direct stratigraphic relation to the face wall, stratigraphically under it, and therefore under the preserved base grate. However, its stones lie *on* and at the same time *in* the layer that makes up the lowest part of the clay-wood core of the rampart. This proves that the substructure was intentionally placed to complement the fortification during its construction. The stone is not placed with the same care as that of the face wall, but the substructure is founded on an artificial layer of waste material, which is also sometimes on and around it (therefore, it is not part of these layers; in detailed observation, the stone base of the substructure lies on the mentioned layers). Further up the slope, these layers are definitely part of the material of the rampart core.



Fig. 26. Mikulčice-Valy, area R 2012 I, II. Cross-section of the stone substructure with a stake hole in the front (left), which belonged to one layer of the three layer palisade; main E profile of probe 96. The upper-left corner contains the deformed base of the face wall (cf. Fig. 25, 27)

Part of this substructure, placed right in front of it, are three layers of stake palisades (for placement of these layers into the greater context, see Fig. 28). The archeological excavation proves in all cross-sections that the face of the lower stone substructure leaned on these stakes, which were able to stand for a long time after the demise of the power center as shown by the fact that it did not sprawl outward (it only leans outward), as if it continued to lean on the stakes (see for ex. E profile of area 96 – Fig. 26). The stakes were already found in the two lower contexts, but they could only be spatially distinguished in the gravel subsoil, where the lower few centimeters of their spiked ends were imprinted (in some contexts, they could not be distinguished at all – maybe due to post-depositional processes and river action after the settlement or its wall was no longer in use). The imprints show that the spikes had triangular and diamond cross-sections. That the spikes were edged and not conical shows, that they were meant to be driven into gravel, because it is almost impossible to drive cones into it. Length-wise cross-sections show that the spikes quickly widened, so the stakes had to have been relatively massive, and given the short distances between them, driven side by side. The stake layers have almost the same distance from each other as the stakes themselves, which makes this a three-layer palisade, offset before the front

of the fortification (the distance between the spikes tips of the outer layers is about 50 cm in this section!). However, there is only one layer in some sections of the fortification. Whether it reflects the reality, or the difficulty of discovering these imprints, is unknown. Although distinguishing the holes left by the stakes is impossible in higher contexts, the destroyed stone remains sometimes outline them (Fig. 29). This is more evidence for the fact that some of these stakes still stood during the destruction of the face wall and substructure.

3. OVERALL DESCRIPTION OF THE MIKULČICE FORTIFICATION

So what is the current idea about the form of the Great Moravian fortifications of the Mikulčice acropolis? It is a typical Slavic rampart composed of a face wall, clay-wood core strengthened by grates and a stone substructure ringed by stake palisades, in front of, and in some places partially under, the face wall. The substructure's role was most likely to bear the face wall's weight and to strengthen the artificial slope under it against water erosion by the nearby river. The rampart (not considering the stone substructure) is, according to current estimates, about 7 to 7.3 m wide. It takes advantage of the slight natural elevation, which consists of sand born by the frequently flooding river and perhaps also by wind (in the entire N section of the fortification, it is mostly fluvial sand and gravel – remains of a natural river bed). The rampart stands on an old settlement layer on top of the elevation, but the front parts of it, including the face wall and part of the core, rest on an artificial slope consisting of various materials and not on the natural slope of the plateau. This additional structure seems, from a structural standpoint, to be rather disadvantageous (cf. Procházka 2009, p. 174). It would be interesting to know what led the builders to choose such a demanding technical structure, which would have required them to bring in a large amount of clay and pile it up behind the previously-built stone substructure (which helped with load distribution of the face wall over the piled up material and may not have been needed had the natural slope been used). Is the chosen construction plan somehow chronologically determined? Perhaps the rampart had to loop around the already standing church and graveyard, or was it may be done with the intention of providing the most space possible inside the fortifications? The following reconstruction is based on all available findings and is separated into chapters by structural parts.

3.1. Face wall

The face wall of the fortification stands on a base wooden grate, which is made up of boards laid transverse to the course of the wall (more on the grate in the chapter on the clay core). Below the grate under the base of the wall are also



Fig. 27. Mikulčice-Valy, area R 2012 I, II. View of the stone substructure, main W profile of probe 91. Face wall on the left, whose weight deformed parts of the substructure (cf. Fig. 25, 26)

length-wise laid beams in one line, which very closely follow the course of the face wall. The wall was built mostly of sandstone and in some sections of more irregular limestone blocks. The face of the wall contained mostly larger blocks with at least one flat face turned outward to keep the wall smooth. The inner parts of the wall consisted of any stones, even smaller ones. A detailed analysis in excavation R 2012 corroborates an earlier finding that the stones making up the face wall were bonded by clay. But there are hollow cavities between some of the stones, which suggest that it was not used consistently during construction. In a few cases, the upper face of the wall was further out than the base, which betrays the wall's gradual destruction and sprawl outward. The base of the wall in the NW section (shown both in the 1950s excavation and in R 2012) sagged so that the outer part of the wall, including the grating, is lower than the inner (cf. Fig. 25, 26, 27 and 30; a consequence of the load on the material upon which the wall stood).

The thickness of the face wall, the rampart's stone component, varies according to the documentation between 1.5 and 2.5 m along its length, according to R 2012 sometimes even up to 3 meters (see Fig. 21, 24, 30). However, these figures are measured near the base of the wall, because the upper parts of the wall have not been found in any of the excavated areas. It is very likely that the upper parts of the wall were much thinner than the given figures, a building style similar to one



Fig. 28. Mikulčice-Valy, area R 2012 I, II. Combined photos give an overview of the front (outer) part of the fortification in probe 91

Legend: 1 – triangular and trapezoidal spike imprints of stakes from the three-layer palisade; 2 – stones that make up the lower destroyed remains; 3 – front edge of the face wall; 4 – front of the base grate



Fig. 29. Mikulčice-Valy, area R 2012 I, II. Overview of the uncovered stone substructure in probe 96, from the E. The documented situation after soil removal; the captured state of the structure shows the significant disruption due to stone removal in the early Modern era. The photo documents the front of the substructure, which formerly leaned against a multilayer palisade (cf. W profile of the excavation in the background). The destroyed remains (evidently from the face wall) in front of the substructure contain imprints of some of the palisade stakes (still upright when the fortification was destroyed).

seen in the fortifications of Pohansko near Břeclav. In that case, the face wall was in certain heights bound to the clay-wood core with inward-facing triangles or cones of stones. The face wall thus had a different thickness in varying vertical portions (cf. Dresler 2011, pp. 107-108). The rare projections of stones into the rampart core and lining of some grate boards, mentioned in the introduction to this paper, would suggest that this may be the case here as well. However, the question of the thickness and building style in the upper parts of the face wall remains open.

The outer edge of the face wall was usually preserved in two to three rows (unlike the inside of the wall, the stones on the outside were placed with care), only one place near church II. from the 1950s excavations reportedly showed four. The maximum height in the preserved parts is 65 cm, but the average is only 30-40 cm. As mentioned earlier, the outer face contained larger stones while the inner side had a whole range of sizes (the secondary exploitation of stones shows a preference for larger stones, as in the case of church foundations). The modern clay furnaces repeatedly found in the clay core and on the destroyed remains of



Fig. 30. Mikulčice-Valy, area R 2012 I, II. Overview of the finished excavation from the NW. The slope on the right shows signs of stake holes removal, found under the face wall and all the rampart core layers

the rampart are tangible evidence of massive secondary disruption in the fortification, especially stone “mining” in an otherwise stone-poor region. This process was well under way before the 17th century. The fragmentary preservation of the disturbed and nearly dismantled face wall of the rampart does not permit even an estimation of its height. The fragmentary preserved portions of the wall in all studied areas, disrupted by secondary interventions and mostly dismantled for stone, does not permit even a rough estimate of its height. Given evidence of its dismantling for stone, the height of the wall cannot even be estimated based on the volume of its destroyed remains, because it is impossible to know how much of the stone was secondarily removed.

3.2. Rampart core

Reconstructing the original form of the clay-wood core seems to be even harder than determining the dimensions and exact position of the face wall (except its height estimate). Information about its vertical structure is only available in excavation R 1963-1964 (the NW section of the rampart is greatly disturbed and leveled by modern plowing, and the documentation about the excavation of the NE gate

section is so poor that it does not help solve this problem). Regarding the details of the internal wood supporting structure, the core's original form and width, one can use a combination of some better documented rampart portions from the 1950s church II. excavation and the findings of the new excavation R 2012 – either way, only data from the NW section of the fortification.

The wooden components of the rampart are mostly boards and maybe some beams in its rear portion. The structure combines length-wise boards or beams (?) and transverse boards, which are laid with only small gaps in between and form a regular grate. The boards are about 15-20 cm wide and a few centimeters thick in the preserved parts. The gaps between the transverse boards are, in the most preserved sections, in the tens of centimeters and roughly correspond to the board widths. The length-wise wooden members are in two lines in the front part of the rampart; one lies right under the face of the wall and the other about 20 cm further in. The base grate of the rampart rests directly on them and based on the findings in the NW section, goes throughout the structure to its back wall. The face wall could have thus been bound in many places with the back wall of the rampart. The grate could also have been supported in its back portion by partially preserved (or poorly recognized, prepared or documented during the excavation) pieces of length-wise placed wood found in the earlier excavations. The logical conclusion of this is the assumption that the boards (or beams) could have been spaced out to support the grate and to prevent its undesirable bending. This was corroborated in the 2012 excavation. The length-wise boards (which could have been thinner beams in some cases, considering their preservation) were again below the grate in multiple rows, though not only directly under the base grate, but also lower in the sandy material below the clay core (perhaps to stabilize the sand). Fragments were also found in area 96, in the middle of the rampart. The only conclusively proven row in probe R 2012 of such wood corresponds to an imaginary line connecting two stake holes mentioned in the excavation description above. The most distant row from the face of the rampart lies about 6 m back, right before stake holes, which reach to the level of the base grate, with the grate continuing inward (see Fig. 24). These stake holes point to the possibility that the rampart core was stepped and the above mentioned stakes (more flat-bottomed columns lined with stones than stakes driven into the ground) held the upper wooden boarding and the core in place. The length-wise pieces of wood could then coincide with the building of this stepped structure. The lower step would then begin about 6 m from the face of the rampart and would be about one meter wide (given the average total width of 7-7.3 m). The stepped structure would allow easier access to the top of the rampart from the inside. To test this hypothesis, another rampart excavation would be needed, this time a targeted one, not a forced rescue. Based on earlier research, which I conducted, the rate of preservation of organic material (not only wood, but also bones) in the sandy layers is, in my opinion, much lower than in the clay. The question is how much the post-depositional processes make it more difficult to reconstruct the original form in this case.

Some remains of wooden structural elements lie at the interface of the lowest core materials and the natural ground layer. This brings forward a possibility that these could be remains of an earlier fortification (for details, see chapter on R 1963-1964). The 2012 excavation is still not fully archeologically evaluated so a conclusion in this case will come later.

Along with the above mentioned discovery of stake holes¹⁰, the vertical structure of the core is only apparent in excavation R 1963-1964, which captured the multiple layers of grating. The max height of the preserved, non-destroyed core parts is about 1.75 m (from the rampart base to the highest preserved grate). In the excavations of Church II. 1955-1959 and R 1963-1964, there were three cases of stone bands running perpendicular to the course of the rampart, which started at its back edge and went inside the core. However, none of them were level with any of the grates, usually being 20-40 cm above one. It is an element that is irregular and its function is so far mostly unknown. But understanding of this feature may be problematic due to strong post-depositional c-transformations (see Macháček 2001, pp. 13-17). There may have originally been more such stone bands in the clay core. This is another aspect of the core that only a new excavation will shed any light on.

3.3. Rampart rear edge

As mentioned in the chapter on the church II. area, considering the structural integrity of the fortification, it is reasonable to assume that some of the boards forming the grates bound the face wall with the back edge of the rampart. In reconstructions, the rear wall is usually presented as wooden boarding held vertical by partially-sunken wooden columns, which were lined with stones. The long boards or beams of the grate, which would lead from the face wall and somehow connect to the rear boarding or the wooden columns, are proven to exist by some of the excavations (at least in the NW section). Although the excavation of the section near the NE gate, in the area Z 1977-1981, did not bring much about the actual form of the fortification, it uncovered several stake holes left by the supporting columns. This allowed mapping out the regularity in their placement and measuring the spacing between them. An analogous situation was also found in the central, northern rampart section in excavation R 1963-1964. The well preserved holes are lined with stone, their bottom is flat and they are generally not deep enough to reach the natural subsoil (they are sunk into an older layer created before the building of the fortifications). The distance between the holes is on average between 2.4 and 2.6 m, with the maximum of 2.8 m. The new excavation R 2012

¹⁰ These were not found anywhere else in the excavated portions of the fortification, but this is not surprising given the methodology of the excavation. The stepped form of the rampart is therefore only a working hypothesis at this time.

did not reach the rear edge of the rampart in the NW section and the documentation of the grid squares from the 1950s excavation is very poor in the rear rampart portions, probably because of the focus on the nearby church and its graveyard, but probably also because of the apparent disruption of the rear area by plowing. The documentation of that excavation also contains mentions and drawings of stone groupings, which may be signs of more stone-lined holes, but there are no cross-sections of those. There is also no verbal interpretation of the holes or stratigraphic position in the surrounding terrain in the documentation. This does not surprise me, because the description of the squares, which capture the rampart core and rear side, is very inconsistent and superficial. In spite of that, I managed to identify 5 stake holes in the drawn plans, which form a line that touches the furthest boards of the grates as well as the edges of the northernmost graves in the church II. graveyard. The overall findings situation tempts one to believe that the base of the rampart's rear edge was lined with stones, but again because of the state of the documentation, only a new excavation would confirm or refute this hypothesis. It is also probable that some of the graves in the graveyard were disrupted by the rampart's construction. There is unfortunately no possibility to revise this assumption, but only a cursory glance at the documentation reveals that for example the left (northern) portion of the remains in grave No. 14 is really bisected by the rear rampart wall and also one of the support column holes (there are probably other such graves). This seems to support the notion that the position of the rampart on the slope coupled with the technically complicated construction on the heaped material was the result (at least in this section) of the intention to avoid the already standing church and graveyard. This hypothesis gives us an important chronological finding about the development of the Mikulčice fortification, but also about the history of the whole of Great Moravia.

3.4. Stone substructure with rows of palisades

A stone substructure with palisades on its outer edge has been found in all four excavated sections of the acropolis fortification. This substructure lies lower than the foot of the rampart and its face is always set out in front of it. The only significant differences are in its relative position to the rampart and its width. In the NW section near church II., it is between 2.8 and 3.2 m wide and its height is (despite its disruption through stone gathering) about 80 cm up to 1 m. The inner side of this substructure is usually slid about 60 cm horizontally under the foot of the face wall and there is about 60-80 cm of clay and waste material between it and the face wall above it (the measurements are taken as if the face wall was in its original horizontal position, because the post-depositional processes bent it significantly downwards). In contrast, in the N and NE sections the structure is set fully before the foot of the face wall where its inner edge lies roughly about 1 to 1.7 m in front of it (the documentation makes it difficult to determine where the

inner edge is as well as the true width of the substructure, so these are rough estimates only). The substructure is also comparably much smaller in the whole N section than in the NW one. It is about 1 m wide (in excavation Z 1977-1981 locally up to 1.8 m, but this is hard to verify) and its height never exceeds 50 cm (documentation of excavation R 1963-64 mentions a value of 70 cm in one of the auxiliary probes in band B, but this is again disputed). Given the average width of about 1 m, the face of the substructure was set out about 2 to 2.7 m in front of the foot of the rampart face wall, which corresponds to the values found in the NW section. From a metric standpoint, the berm between the palisades and the face wall was roughly the same width along the whole studied length of the fortification. Therefore, the only variance was how much of it was taken up by the width of the substructure and how much was just loose material. It probably depended on the position of the face wall – whether it was on the natural layer (NE and N section), or on the artificially heaped material on the slope (NW section near church II.) and maybe also on the curvature of the river below the fortification, which threatened to erode terrain under the structure. In the NW section, the course of the rampart and that of the substructure are not the same (the substructure deviates from the W-E course of the rampart by a few degrees in the WSW-ENE direction in case of the western edge and in the new excavation R 2012 on the eastern edge near church II. in the opposite, WNW-ESE direction; see chapters 2.1, 2.4). It appears that the substructure copied the contours of the natural terrain while the rampart itself was “straightened” according to particular needs and was built on an artificially enhanced slope, which was heaped on the natural slope. There are also differences in the number of stake palisades driven in front of the substructure. If these are not signs of the difficulty of distinguishing their leftover holes in the gravel subsoil on the ground water level (and below it), or their disappearance due to post-depositional n-transformations (Macháček 2001, pp. 13-17), then the number of palisades in the N section, compared to NW and NE, dropped from between three and four to just two. This difference may have also been caused by the concave curvature of the NW section, which followed the former arm of the Morava River, where the pressure of the river during annual floods had to be greater than in the case of the straight or slightly convex course of the N and NE section. There it could have been primarily the strengthening of the river bank against the erosion of the river. The course of the river bed in the area directly adjoining the substructure under the NE gate has been confirmed by the excavations (cf. Procházka 2009, p. 174, for summary about the river bed and bridge see Poláček 2012). Probe P 1963-1964 is located in the place where the fortification is curved outward the most – the stone substructure is the thinnest here (in line with the above assumption) and the stake palisade in front of it is reduced to one or two layers. The distance from the dry river bed may have an effect on the rate of preservation of the stone substructure and stakes and also perhaps on the possible distortion of its original thickness. The stones and stakes directly bordering the then still active river may have been falling into it

after the abandonment of the fortification and could have been transported downstream.

The layering of stones in the substructure is not done as precisely as in the case of the face wall of the rampart. The stones were mostly bonded with clay, but upon close inspection, this “stone-laying” technique was not strictly adhered to. There are cavities and empty cracks apparent in some places. This substructure was therefore probably built with the palisades holding the required amount of imprecisely layered stones in mind. The cross-sections of the stakes show very quick tapering towards the point (most apparently seen in the R 2012 excavation), so the stakes had to be relatively massive, and given the short distances between them, driven side by side. The stake layers has almost the same distance from each other as the stakes themselves, which makes this a three-layer palisade, offset before the front of the fortification (the distance between the spike tips of the outer layers is about 30-50 cm according to most excavations). Given that the stakes had to be driven tens of centimeters deep to ensure stability (in the case of stakes in the fortification of Pohansko near Břeclav, the depth was proven to be around 85 cm from the former top layer, see Dresler 2011, p. 94), it is evident that they had to be driven into relatively soft material, likely the same clay as the rampart core, heaped there before the construction of the substructure.

3.5. Dating the fortification

We have too little evidence to properly date the erection of the Mikulčice fortification. The artifacts and items found in the early excavations are almost impossible to place in their appropriate natural contexts due to the methodology used during terrain removal (as mentioned earlier), so we can only very roughly estimate the age. Certain chronological information that may be of use can only be derived from the new 2012 excavation. Although some wood was found, dendrochronology cannot be used because the pieces found are almost exclusively boards which do not retain enough tree rings (the state of preservation is also rather poor). The C14 dating method will not be of much use either, because of the short period between now and the Great Moravian Empire. Moreover, most of the samples are taken from sources inappropriate for this method, such as fragments of boards and beams taken from unknown parts of the original tree. Using such samples leads to misleading results in the dating of the erection of the rampart. The results of the C14 dating of wooden components from various places of the fortification, including from under the substructure and a stake hole (under the material of the core), are not that far apart; the values given for the samples (only 8 in total) range between 680 to 860 years (clustering around 710-810); the archeological method of dating is much more precise in this case.

Judging by the ceramics found in the area of the NE gate and material from the destroyed remains of the adjoining rampart as well as an analysis of the find-

ings from the new excavation in the NW section near church II., the fortification was put together in a single construction project.

I do not consider the hypothesis of rebuilding the clay-wood fortification in phases as put forward by B. Kavánová (2003) as supported by the available evidence and the same goes for the interpretation of the stone substructure and palisades as remains of an earlier acropolis fortification (first mentioned by Poulík 1957, pp. 250-251; modified version by Kavánová 2003, pp. 218-219; critique of the interpretation Mazuch 2012c).

As for the question of the existence of an earlier Mikulčice fortification, on the basis of an archeological synthesis of all the available knowledge from excavation documentation and findings of the new excavation in the NW section, I see the discovery of stake holes in the sand and gravel on which the studied fortification stands as giving some credence to it. In the full width of the R 2012 area, on the slope under the face wall, several stake holes left by stakes with long thin, perhaps conical, tips were uncovered (determining the shape was very difficult in the loose sand with few color differences). These stakes are different from the ones used in the three-layer palisade (the triangular and diamond tips were not needed in this case, because they were driven into loose sand, not the coarse gravel found under the slope). The stake holes were only in the subsoil, not in the material making up the fortification core (see overall photo after probe 96 – Fig. 30). This gives rise to the hypothesis that the stakes are older than the fortification. Unfortunately, no wooden remains of these stakes were found. Therefore, it will be impossible to date them using the C14 method. The mentioned holes do not show any semblance of order, but they are in a layer under the settlement layer (often mentioned in this text) full of cinders, that lies directly under the clay core materials and above the geological subsoil (it is mentioned in the documentation of every excavation to date). In the excavation R 2012, this layer ends just behind the top of the natural slope around the acropolis and the stake holes described above begin beyond its furthest edge (they are not in a stratigraphic superposition, they are horizontally distinct, so the stakes and the layer cannot be ruled out to be chronologically recent).

However, the situation is different in the case of the stake holes found right at the foot of the slope, directly under the inner edge of the stone substructure (stake holes visible for example on cross-sections Fig. 26, 27 and 30). These stakes formed a line, but they differed from the ones up the slope. Their spikes were not as long and were edged, not conical, similar to the palisade stakes. Their chronological relationship to the stakes on the slope and the fortification is yet unknown (one of the wooden stakes with a triangular spike was even found intact). They are stratigraphically covered by the stone substructure and a detailed observation in cross-section shows that they were not part of it (the stone is directly above the holes, so there is no space through which the stake could protrude). This is evidence that they are both chronologically and stratigraphically older than all the elements of the fortification. It cannot be ruled out at this stage that the stakes at

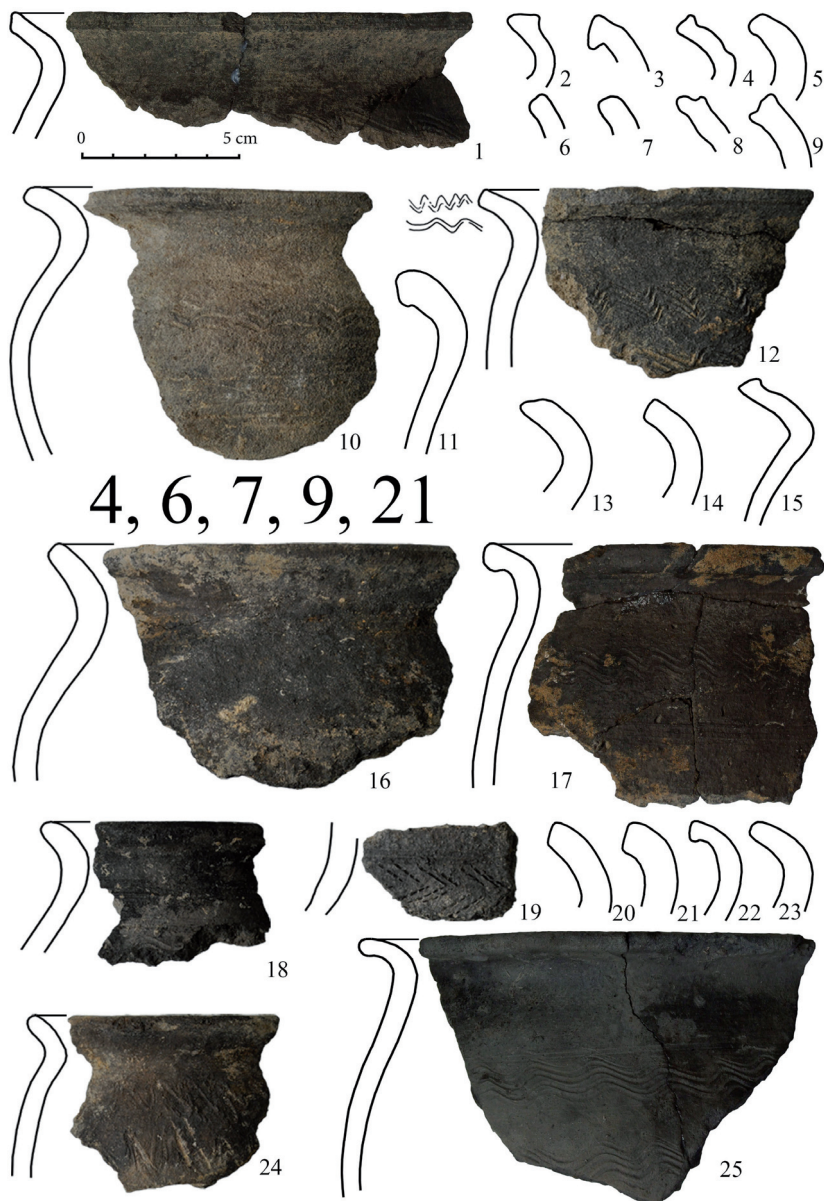


Fig. 31. Mikulčice-Valy, area R 2012 I, II. Selection of ceramics from layers 4, 6, 7, 9, 21
(the number after the sequence numbers is the inv. no. of shards):

- 1 – 91/129/1; 2 – 96/152/3; 3 – 96/157/2; 4 – 91/248/1; 5 – 96/158/3; 6 – 91/172/1; 7 – 91/184/1;
 8 – 96/155/1; 9 – 96/139/1; 10 – 96/157/1; 11 – 96/156/1; 12 – 96/158/5+96/158/1; 13 – 96/152/1;
 14 – 96/176/2; 15 – 91/172/2; 16 – 96/175/1; 17 – 91/227/1+91/228/6+91/228/7+91/229/1; 18 – 96/182/1;
 19 – 96/181/1; 20 – 96/183/1; 21 – 96/152/2; 22 – 96/175/2; 23 – 96/173/1; 24 – 96/176/1;
 25 – 91/202/1+91/215/1

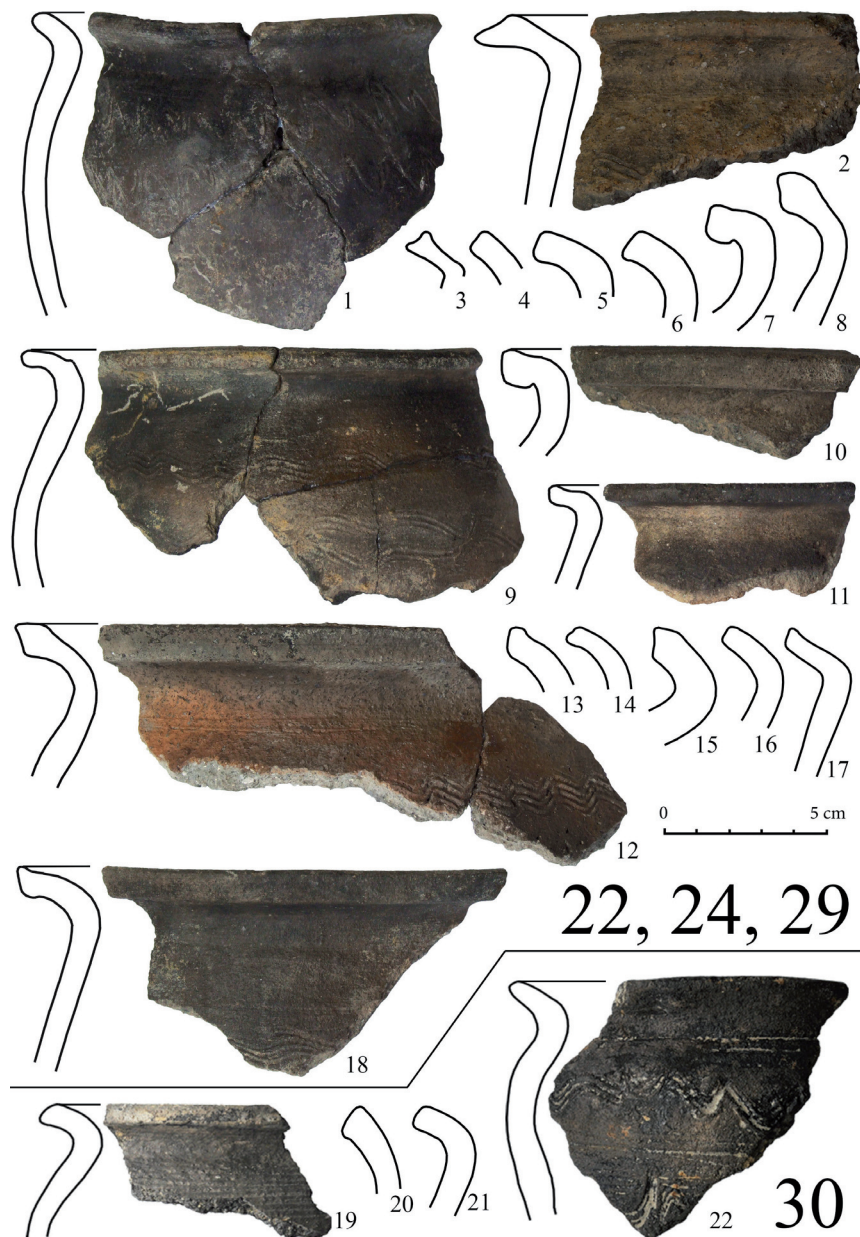


Fig. 32. Mikulčice-Valy, area R 1202 I, II. Selection of ceramics from layers 22, 24, 29, 30 (the number after the sequence numbers is the inv. no. of shards):

1 – 91/214/1+91/185/1; 2 – 91/223/2; 3 – 91/219/1; 4 – 91/214/6; 5 – 91/219/2; 6 – 91/206/1; 7 – 91/206/2; 8 – 91/214/4; 9 – 91/214/2+91/201/1; 10 – 91/223/3; 11 – 91/223/4; 12 – 91/223/1; 13 – 96/169/2; 14 – 96/200/1; 15 – 96/166/1+96/166/2; 16 – 96/252/1; 17 – 96/165/1; 18 – 91/214/3; selection of ceramics from layer 30: 19 – 96/244/1; 20 – 96/250/2; 21 – 96/248/1; 22 – 96/250/1

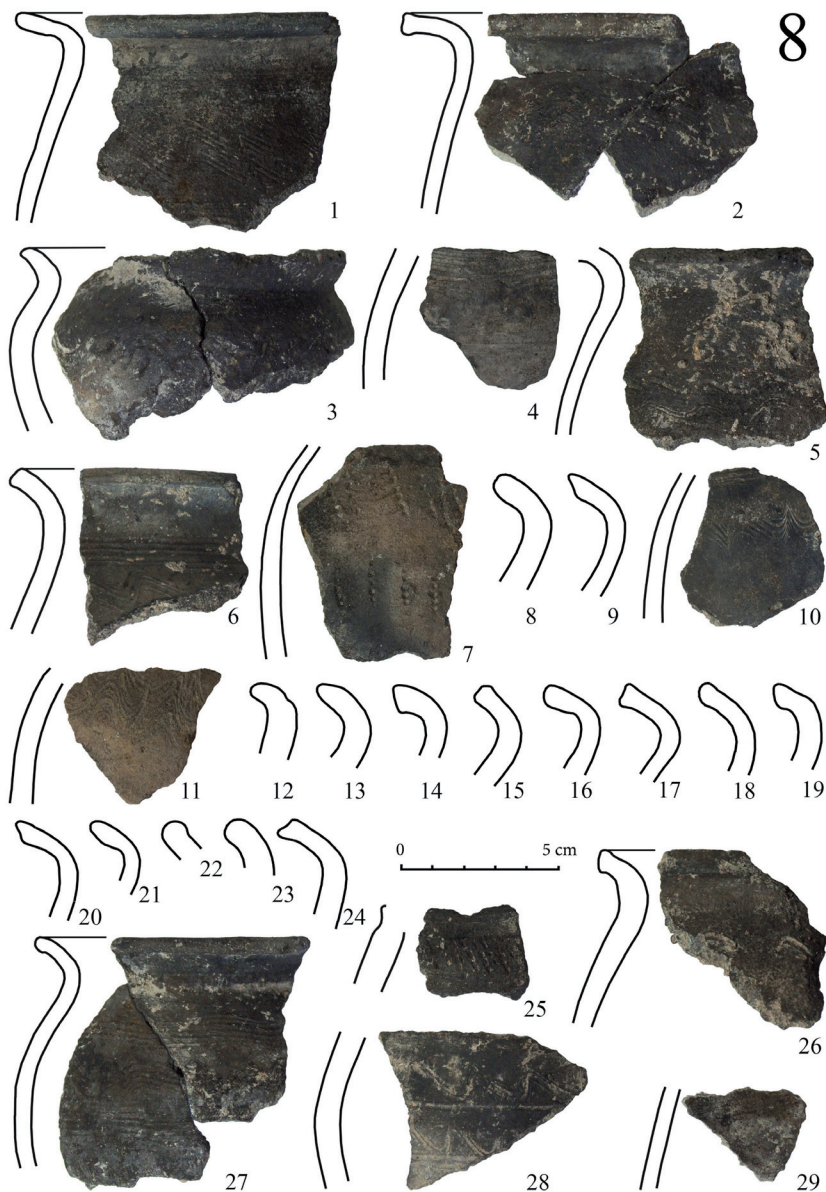


Fig. 33. Mikulčice-Valy, area R 2012 I, II. Selection of ceramics from layer 8 (the number after the sequence numbers is the inv. no. of shards):

1 – 91/231/7; 2 – 91/211/1+91/211/2; 3 – 91/188/1+91/212/1; 4 – 91/196/3; 5 – 91/196/1; 6 – 91/192/1; 7 – 91/232/8; 8 – 91/192/2; 9 – 91/231/6; 10 – 91/232/7; 11 – 91/192/6; 12 – 91/232/4; 13 – 91/208/1; 14 – 91/189/2; 15 – 91/189/1; 16 – 91/232/2; 17 – 91/232/3; 18 – 91/194/1; 19 – 91/231/5; 20 – 91/194/2; 21 – 91/191/1; 22 – 91/208/2; 23 – 91/191/3; 24 – 91/232/6; 25 – 91/194/3; 26 – 91/191/2; 27 – 91/231/1; 28 – 91/191/5; 29 – 91/211/3

the foot of the slope may have been part of temporary structures. For example, they could have held together some forms, which were being filled with the material of the lower core. And they could have been severed when the stone substructure was to be built. But evidence is against the hypothesis as there would be no reason to partially remove them when they could be incorporated into the substructure. We can add the question of the age of the lowest wooden parts of the rampart core to the big question of the possible existence of an earlier fortification around the area (older than the studied Great Moravian fortification), which can be the focus of another excavation. It could determine whether they were strengthening elements of the core, put under the base grate, or whether they were parts of the proposed earlier fortification¹¹. The sandy material of the lowest core means that only fragments of these components were found, which makes further analysis impossible.

After the problem of the possible existence of some older acropolis fortification and finding its traces¹², the most important question, connected with the effort to find the structural development of the power center, is the chronological and spatial relationship between the rampart and its surroundings. However, this question is very hard to answer without a new excavation – the way the previous ones were conducted and their documentation renders it impossible. Examples of these relationships are between the fortification and other nearby structures – such as the churches, the graveyard and buildings outside the fortified area – between the level of the rampart and the two-phase construction of church II. and the former ground level, the NE gate and the outside settlements. Another reason to dig again is to firmly establish the reasons for building the rampart on the artificially enhanced slope and not on the top of the natural sturdier slope.

The available documentation of virtually all previous excavations as well as the latest archeological excavation in the NW fortification section near church II. repeatedly shows the heterogeneous material of the clay wood rampart core. Most of these materials are very local, their layers vary wildly in thickness and they follow one another in quick succession, both vertical and horizontal. This reveals the practice of reusing waste material to build the rampart core. The chaos and irregularity in the deposited layers hints at a very fast building process with no specific requirements on order or regularity in the rampart core. This means that the builders used practically anything that was at hand and served no further purpose to fill the required mass of the rampart core. The latest excavation proves that these layers are stratigraphically bound to all fortification elements and that it was built all at once with no long-term “phases” involved. The excavation applied

¹¹ But I prefer the first alternative based on preliminary analysis. The remains of length-wise laid beams (boards) were found not only in R 2012 (area 96) but also in the C band of excavation R 1963-1964 (for detailed analysis of the situation, see chapter 2.2).

¹² What options would we have in case the older fortification really existed if, for example, it was totally dismantled, its stone parts removed and any organic remains were subjected to strong post-depositional n-transformations in the sandy material (M a c h á ě k 2001, pp. 13-17)?

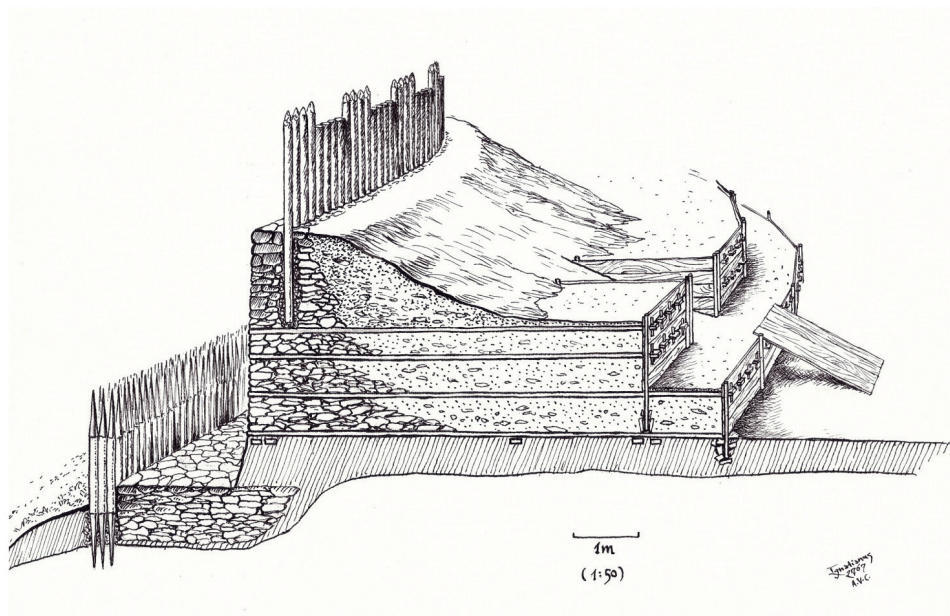


Fig. 34. Mikulčice-Valy. Newly created reconstruction of the rampart in the NW section of the Mikulčice acropolis fortification, near church II.

the methods of contextual archeology (adapted for the specific conditions of the Mikulčice fortification, such as the gradual color and consistency changes in layers, since 2005 – see Mazuch 2005) with strict separation of artifacts by natural contexts and by using the most important archeological tool, adequate documentation and artifact cataloging. At a certain time (determining it is very important and unfortunately the hardest thing to do in the excavation), the entire “standard Great Moravian” fortification was built, including the face wall, heterogeneous, but mostly clay-wood, “stepped” core (including older waste material) and the front substructure with palisades (Fig. 34 – overall reconstruction).

According to preliminary evaluation of ceramics from the contexts of the rampart core, found in excavation R 2012, the fragments are without a doubt Great Moravian (for ceramics from the core near the base grate and above, see Fig. 31 and 32 – except layer 30). However, the ceramics found in the settlement layer under the fortification show signs of an earlier origin (Fig. 33 and layer 30 on Fig. 32). However, it is at least unwarranted, considering the level of knowledge about 9th century ceramics, to firmly label the found ceramics as “pre-Great Moravian” (cf. Mazuch 2009). The differences between pottery from the beginning, middle and end of the 9th century are only taken as tendencies, while the chance to firmly establish their chronological placement in the short time span of a 100

years with the current available dating methods seems extremely low (general placement Macháček 2001, for knowledge about ceramics of the late Great Moravian period see Mazuch 2013 with literature). An important relative chronological piece is, in my opinion, the presence of only a small proportion of Mikulčice ceramic group in the contexts that make up the rampart core. This is diametrically different from Mikulčice's open areas situated around the walls (see Fig. 1), where its proportion is high or dominating (Mazuch 2013). These areas are dated to the end of the Great Moravian era, the end of the 9th and the beginning of the 10th century (more on the Mikulčice ceramic group – Mazuch 2013; for its chronology – Mazuch 2012b). Assuming that the fortification was not built at the end of Great Moravian state, the above information supports the hypothesis of the age of the ceramics in the Mikulčice area and its chronological tendency at the turn of the 9th and 10th centuries. To elaborate on this hypothesis, the fortification can be dated to the start of a golden age of Mikulčice ceramics production (the ceramics from the core shows signs of the typical motifs of Great Moravia as found in tendencies by modern archeology). In that case, the hypothesis fits in well with a known historical mention in *Anales Fuldenses*, according to which the Frankish army was confronted in the 860s by “Rostislav’s fortress unlike any of his older ones” (“...in illam ineffabilem Rastizi munitionem et omnibus antiquissimis dissimilem” – MMFH I, 101; cf. similar reasoning – Procházka 2009, p. 175)¹³.

Repeated signs of a great fire in the wooden components of the fortification and the NE gate as well as the presence of unburied individuals found in front of the face wall and other areas suggest that the Mikulčice power center was definitely destroyed (in terms of its political, economic and spiritual function) some decades later by a coordinated attack (cf. Mazuch 2012b with literature).

This paper has been created with the support of the GA ČR project, registration number P405/11/2258.

REFERENCES:

- Dresler P. 2011, *Opevnění Pohanska u Břeclavi*, Brno.
 Kavanová B. 2003, *Mikulčice – pohřebiště v okolí 12. Kostela*, [in:] P. Kouřil (ed.), *Mikulčice – pohřebiště u 6. a 12. kostela*, Brno, 211-414.
 Macháček J. 2001, *Studie k velkomoravské keramice. Metody, analýzy a syntézy, modely*, Brno.

¹³ Is this specific and emphasized mention not proof of the dismay at the new imposing fortification, at the cunning of the Moravian ruler? To build a fortification, even such a big one, couldn't have taken as long as it may seem at first glance (cf. Dresler 2011, pp. 125-126). The source indirectly hints at the fact that the armies plundered the territory of the Moravian ruler and engaged his armies, but that this stronghold was not taken. This seems even more relevant because this source was surely biased in favor of the Frankish rulers.

- M a z u c h M. 2005, *Mikulčice – Valy (okr. Hodonín)*. Plocha P 2005 (č. 79) v severním podhradí. Research report. Deposited in the archives of Institute of Archeology ASCR – Brno (No. 128/06).
- 2009, *Několik poznámek k chronologii a datování hmotné kultury doby hradištní na Moravě*, [in:] P. Dresler, Z. Měřinský (eds.), *Archeologie doby hradištní*, Brno, pp. 211-216.
 - 2012a, *Doklady novověkých aktivit v prostoru zaniklého raně středověkého mocenského centra Mikulčice-Valy*. Jižní Morava 48, pp. 7-45.
 - 2012b, *Výzkumy severního podhradí hradiště Mikulčice-Valy: k otázce násilného zániku velkomoravských mocenských center na počátku 10. věku*, [in:] J. Doležal, M. Wihoda (eds.), *Mezi raným a vrcholným středověkem (Pavlu Kouřilovi k šedesátým narozeninám přátelé, kolegové, žáci)*, Brno, pp. 137-160.
 - 2012c, *Prostor severovýchodní brány akropole raně středověkého mocenského centra Mikulčice-Valy*, *Přehled výzkumů* 53, pp. 69-95.
 - 2013, *Velkomoravské keramické okruhy a tzv. mladší velkomoravský horizont v Mikulčicích*, Brno.
- MMFH 1966: *Magna Moraviae Fontes Historici I – Annales et chronicae* (cur. D. Bartoňková et al.). Praha-Brno.
- P o l á č e k L. 2012, *Mosty a říční archeologie v Mikulčicích*, *Přehled výzkumů* 53, pp. 23-38.
- P o l á č e k L., M a r e k O. 2005, *Grundlagen der Topographie des Burgwalls von Mikulčice. Die Grabungsfächen 1954-1992*, [in:] L. Poláček (ed.), *Studien zum Burgwall in Mikulčice VII*, Brno, pp. 9-358.
- P o u l í k J. 1957, *Zpráva o výzkumu na velkomoravském hradišti "Valy" u Mikulčic*, *Památky archeologické* 48, pp. 241-388.
- P r o c h á z k a R. 2009, *Vývoj opevňovací techniky na Moravě a v českém Slezsku v raném středověku*, Brno.