
EXCAVATIONS AT THE EASTERN GATE OF THE BĂNEASA ROMAN FORT

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ABSTRACT

Within the short archaeological campaigns from 2018 and 2019 we have excavated at the middle of the eastern side of the large fort from Băneasa (Teleorman County), facing the frontier's palisade. It has been discovered one of the gates (first to be studied), of an unusual type: there is only one tower, made of wood, almost twice long than wide, used as an entrance way, 2.4 m in width. The gate itself was made of a grid of horizontal and vertical wooden boards, connected by large iron nails found in great numbers.

Made around AD 200, the first phase of the large fort¹ was put to fire about 25 years later, the pillars of the gate being burned one meter below the ground level. Under the debris were caught both offensive and defensive arms, a rare brooch and some small tools from the personal equipment. The only coin found here has confirmed the previously proposed date of the phase.

In the second phase of occupation of the site, the Roman fort shrunk, the eastern side being withdraw about 60 meters westward. The area studied by excavation became very likely an area of handicraft, yet not very consistent.

REZUMAT: SĂPĂTURI ARHEOLOGICE LA POARTA ESTICĂ A CASTRULUI ROMAN BĂNEASA

În scurtele campanii din 2018-2019 de la Băneasa (com. Salcia, jud. Teleorman) a fost cercetată prin săpătură o zonă relativ restrânsă de pe mijlocul laturii răsăritene, aflate în fața frontierei marcate cu palisadă. A fost descoperită una dintre porțile fortificației (prima cercetată), de un tip mai puțin cunoscut, în epocă: avem acolo doar un turn, construit din lemn, de aproape două ori mai lung decât lat, folosit ca poartă, deschiderea intrării fiind de 2,4 m. Poarta era făcută din scânduri groase de lemn, dispuse pe două rânduri, unul orizontal și unul vertical, legate cu piroane mari, găsite în număr mare.

Prima fază a fortificației, ridicată în jurul anului 200, a fost distrusă un sfert de veac mai târziu, într-un incendiu generalizat, stâlpii turnului arzând până la baza fundației, adâncă de 1 m. De sub dărâmături au fost recuperate fragmente de arme ofensive și defensive, o fibulă rară, dar și mici unelte care par a proveni dintr-un set de uz personal. Singura monedă găsită aici a confirmat datările propuse în raportul anterior.

În a doua fază de ocupație a sitului, pentru epoca romană, fortificația a fost repliată spre vest (spre marginea terasei), pe locul vechii porți fiind desfășurate activități meșteșugărești, dar fără descoperiri consistente.

Keywords: Roman fort, tower-gate, wooden fortification, arms, brooch

CUVINTE CHEIE: fortificație romană, turn-poartă, fortificație de lemn, armament, fibulă

¹ On the site there is another, smaller fort, of unknown date, never dug. See Teodor 2016, 108, Fig. 1.

Situation before digging

The Roman fort at Băneasa (village, Salcia commune, Teleorman County) is a middle sized auxiliary garrison, square shaped with a side having about 139 m. It is anyway the largest known fort along the late frontier named (in modern times) *Limes Transalutanus*,² from the western Muntenia (Great Wallachia), connecting Danube with the Bran Pass.

The oldest rendition of the fort is due to the field research made by Grigore Tocilescu and Pamfil Polonic in the late 19th century (Figure 1).³ Rather a sketch than a proper plan, the drawing is yet important, as the authors saw the field in a preservation status much better than today, before intensive agriculture. As the middle rampart is an addition from the second phase, it is suggested a camp oriented towards south, with *porta decumana* at north and *porta principalis praetoria* at south. A third gate would be located on the eastern side, at two fifth closer to the southern corner, being – in this scenario – *porta principalis sinistra*. A fourth gate, westward, is less expected, as the terrain is quite steep. Not all the details proved eventually right, as, for instance, the second defensive ditch towards east and north; at least at the north-eastern corner the second ditch is absent, as showed by excavation⁴

Except one campaign during the Second World War,⁵ the first exploratory digging was done in 2016, at the south-western corner, in order to evaluate the estate of preservation (apparently the worst at that corner). As the evaluation went better than expected, in 2017 was made the first (and so far the only) larger excavation, at the north-eastern corner, affecting a surface of 145 m², including a trench crossing the defensive ditch.⁶

About in the same time was finished the task for magnetometry, performed by Dan Ștefan (Figure 2). Some observations are needed here. First of all, the curved dark line from the western edge is the limit of the terrace, due to the advanced erosion (compare with Fig. 1); the extremities of the original ditch are still in place, but the middle is lost. The defensive ditch is the most visible feature from this fort, all around, as it ended in fire (phase 1) and the ditch is filled with burned matters. The studied surface is then split by a second darker line (under the middle grid line), which is the defensive ditch of the second phase; the rampart of that phase is not visible in magnetometry, but it is still very clear in the topographical survey, being located west of the later ditch (see the green line).⁷ This late rampart has not been burned, therefore the place was deserted on other reasons than a siege. The only other notable thing on this work is a darker frame, well visible but with interruptions, more or less parallel with the early rampart, about 6-7 m inside, and it is most likely the alignment of the inner buildings, consumed by fire. The contrast between the burned adobe and the natural ground signal is so strong that no other structure is visible; for instance, the buildings of the second phase are probably missing from the picture. The only area relatively free of burned matters is the grid in the left side of the central area, located on the same axis with the strong ‘anomaly’ which is the eastern gate, as the reader shall see in this paper. This clear area from the central-left side of the fort could be the location of *principia*.

Another important detail at the Fig. 2 is the northern gate, where the ditch is discontinuous, corresponding to the plan from the Fig. 1. If that gate was located on the centre of that side, then what we are seeing is only the eastern half of the opening, the other half becoming the ditch of the second phase. Not the same thing is happening at the southern side, where the gate is not that clearly visible.

The geophysical depiction did not show a gate at the two thirds of the eastern side, as suggested by Tocilescu and Polonic, but at the centre. The picture is glared by a power pole standing just outside the ditch, at the middle of the eastern side, but just meters west of it is visible a strong anomaly. That place became our target for the excavation campaign for the summer 2018.

² Teodor 2016, 107-108.

³ Tocilescu 1900, 131, fig. 173.

⁴ Teodor, Dumitrașcu, Ștefan 2017, 85 with Fig. 2, 87.

⁵ Cantacuzino 1945, without certain benefits.

⁶ For these excavations see Teodor 2016 and Teodor, Dumitrașcu, Ștefan, 2017.

⁷ For the topographical survey see Teodor 2016, 108, Fig. 1.

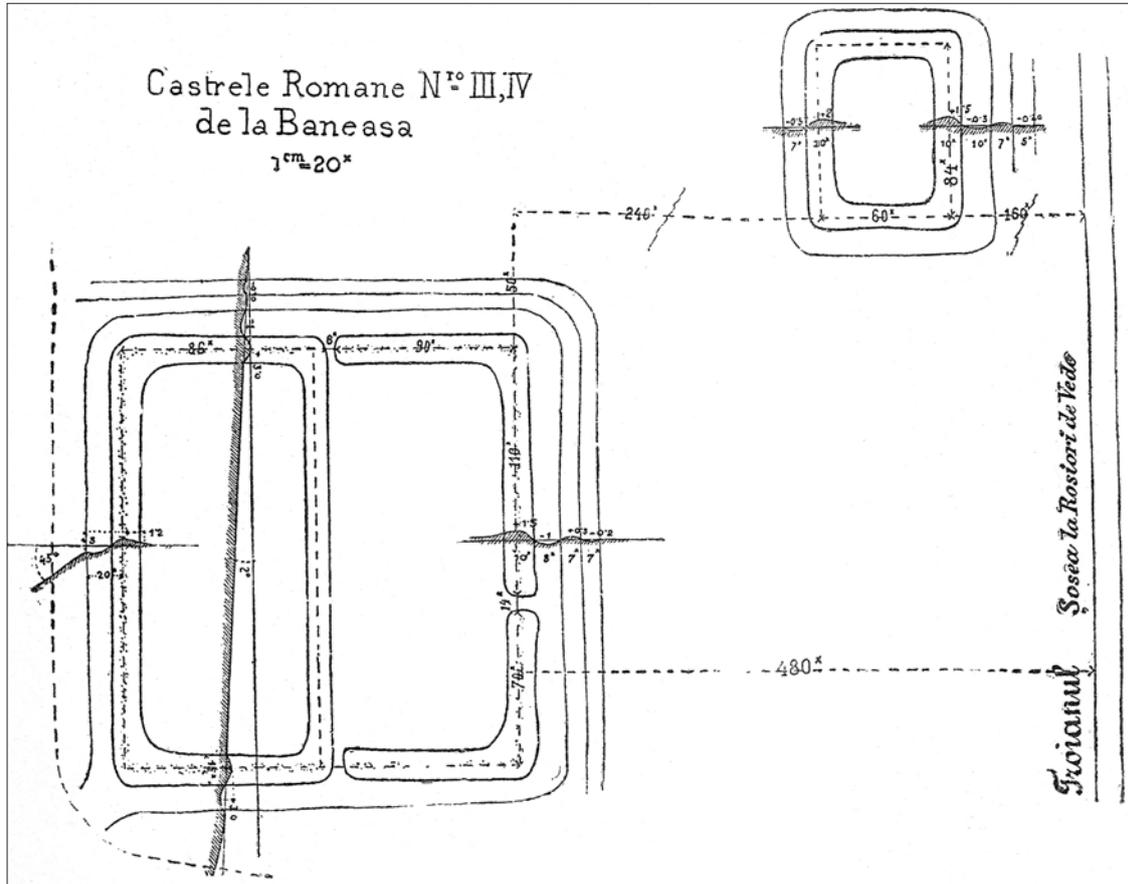


Figure 1. The fort and the fortlet at Băneasa, as rendered in Tocilescu 1900, 131, fig. 74. Heights in meters, lengths in passes (0.76 m). Not at the original scale.

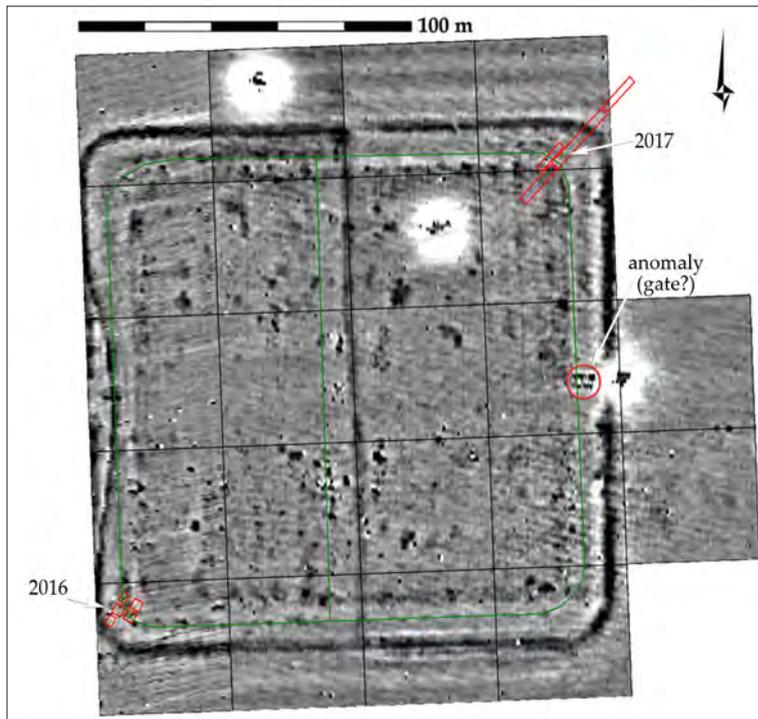


Figure 2. Magnetometric data at the larger fort at Băneasa (Dan Ștefan 2016-2017). Red: archaeological trenches in 2016 and 2017 and the anomaly at the eastern gate; green: the ridge of the rampart (established on a detailed terrain file); large white anomalies – power poles.

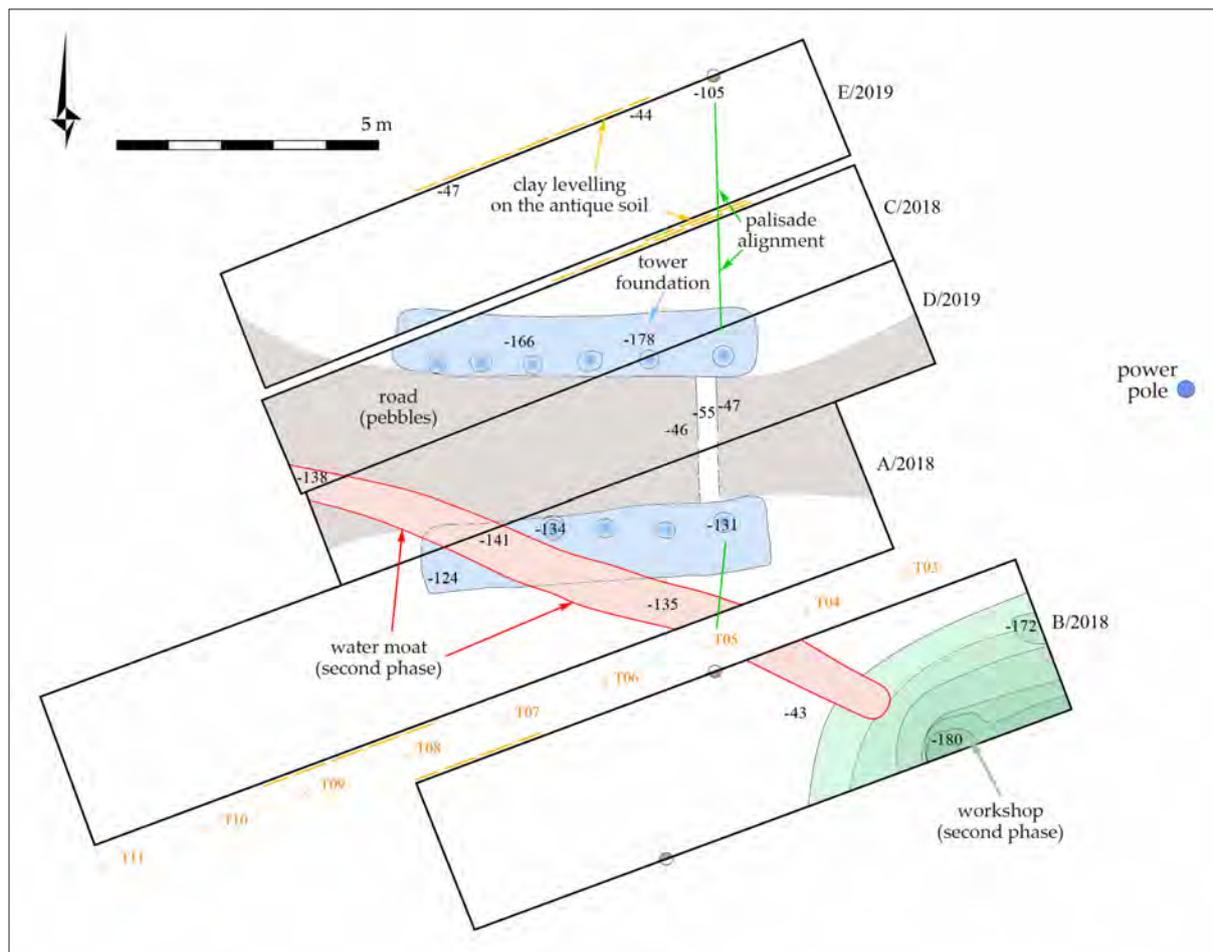


Figure 3. General plan of the excavations made at the eastern gate.

The digging

The plan was to excavate that ‘anomaly’ during the summer of 2018, but the funding was too poor to make it possible.⁸ We were able to dig to the bottom only three trenches: A (16 x 3 m), B (12 x 3 m) and C (12 x 2 m), as depicted in the Figure 3.⁹ The essential parts of our concern were done from the first campaign, becoming clear an odd gate with only one tower (discussed further), but the distribution study of the inventory proved so interesting that we had to stay in the same place for the next campaign (2019) and finish the work; consequently, having a budget still smaller,¹⁰ we succeeded to make only two new trenches: D (12 x ~1.9 m) and E (12 x 2.3 m). The trench D dug out the entire space left between the trenches A and C (2018), with no stratigraphic control, but we took advantage of knowing the stratigraphy collected in the previous year from the adjacent excavations. The trench E was meant only for checking the situation in the northern side of the tower.

The technical grid is shown (at the Fig. 3) between the trenches A and B, the marks generating an irregular grid, having the length of 2 m and the specific width for each trench (3 or 2 m), regressing towards east-northeast. The grid has the origin at the electric pole, heading WSW 250°.

The report go further describing each major context, as the double foundation of the tower, the gate, the pebble road, the palisade alignment (all depending of the first phase), the water moat and the workshop (from the second phase).

⁸ 20,000 RON (or about 4,255 Euro) gross sum.

⁹ The field is private property, used in agriculture, having a clover crop in the last four years. The owner pretends no fee for the permission to dig, but we cannot leave open trenches, which would impede harvest the clover from around and could be dangerous for the harvesting machines. We have therefore to ‘clean’ the area at the end of each campaign, refilling the trenches and making the field flat again. This is one reason not to dig in large surfaces, although not the only one.

¹⁰ 15,000 RON (or about 3,156 Euro at the exchange rate).

The tower

The building is a first of its kind in Romanian archaeology and, as far as we know, in European Roman military archaeology. Therefore we will try to describe it in some detail.

The strong double anomaly seen on magnetometry was given by a double ditch made to accommodate a tower. The foundations are aligned more or less east-west, having dimensions slightly different. The northern foundation is 6.69 m long and 1.21 m wide (average measurement; it is narrower at the middle). The measured depths are between 1.66 m and 1.78 m, but the antique level of digging is 0.41 m lower than the actual surface, thus the original construction was 1.31 m deep. The southern foundation is a bit shorter, but larger, 6.53 x 1.3 m, having depths between 1.34 to 1.24 m from our time surface, and an average depth of 0.88 m from the building level. The difference of the depths is 43 cm, but the terrain is slightly tilt (about two degrees) from north towards south, therefore the base of the northern foundation is deeper than the southern, on a horizontal line, with only 18 cm. This means only that the northern foundation has been dug lower, but the error was lately corrected, as we shall see later.

Each of the two foundations has accommodated 6 large pillars, buried along the inner sides of the pits. They have round sections, with small variations, as rendered into the Table 1.

Table 1. Diameters of the tower's pillars

part	no (E first)	diameters (cm)
north	1	39 x 40
north	2	36 x 36
north	3	37 x 45
north	4	34 x 36
north	5	34 x 39
north	6	32 x 36
south	1	37 x 39
south	2	30 x 35
south	3	36 x 38
south	4	37 x 39 (46)
south	5, 6	missing

The diameters were taken at about the half way between the antique ground level and the base of the foundation (more or less that represented into the Figure 4), therefore the location and the size of the poles could be affected by the processes connected with the fire and the collapse of the building, in which some of them were slant. The tilt is obvious for the pillar 4 south, but could be supposed also for cases in which the difference between the two measured diameters is rather large (pillars 3, 5 and 6 north, pillar 2 south). All of them were burned to the bottom, turned into ashes, having bits of burned adobe fallen inside (see the first from right at the Fig. 4).

Reading at the Table 1 the smaller figures from the last column, we can conclude that the pillars had a circular section of about 35-36 cm in diameter, which is well larger than the usual posts encountered in a Roman fort, mainly for the barracks, having usually diameters around 30 cm.¹¹ We have also to consider the distances between two posts. The most common situation for barracks is a network of pillars located about 3 m one of each other. For this tower, we have two rows of 6 stretched along 5.36 m (measured between the centre of the extreme posts), which is one for every 0.893 m. The width of the tower, measured between the centres of the front (eastern) pillars, is 3.12 m, which is similar with a barrack module. The conclusion is that pillars of the tower are, in average, about 20% larger, arranged longitudinally more than three times closer; therefore, this building was meant to be at least three times taller than a barrack.

We have now to explain why the builders have chosen to make a continuous foundation, and not bury the pillars individually. The answer is simple: due to their close proximity. If the average distance between the centres is 0.89 m, the distance between their circumferences is only 0.65 m, therefore the distance between the separate pits would be only 0.45 m, the original bedrock being thus weaken. In addition, the bedrock is poor, just clay.

¹¹ For the Roman fort at Răcari see Teodor 2003-2010, archaeological reports, esp. 2007 with Fig. 2, 2008 with Fig. 3, 2009 with Fig. 2-3, 2010 with Fig. 7-8. For Băneasa and theirs barracks see Teodor 2016, 112-114 with Fig. 4, 7; Teodor, Dumitraşcu, Ştefan 2017, 88 with Fig. 5.

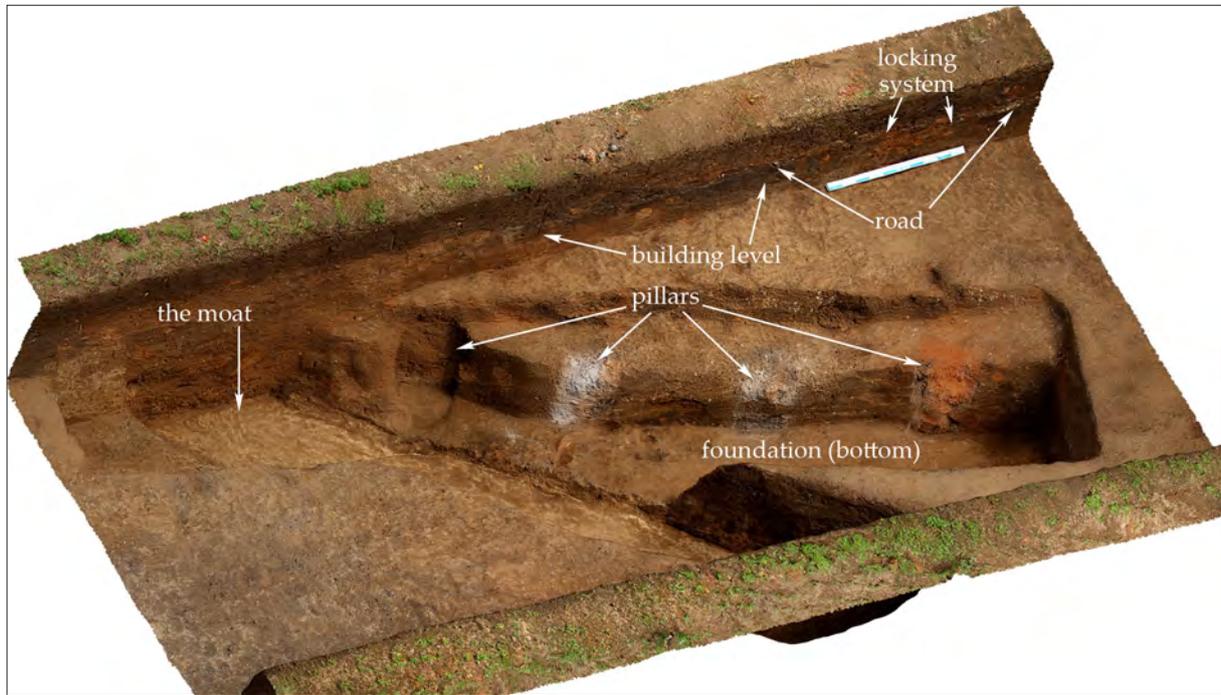


Figure 4. Trench A, photogrammetry, oblique view towards north. The scale in the picture has 1 m.

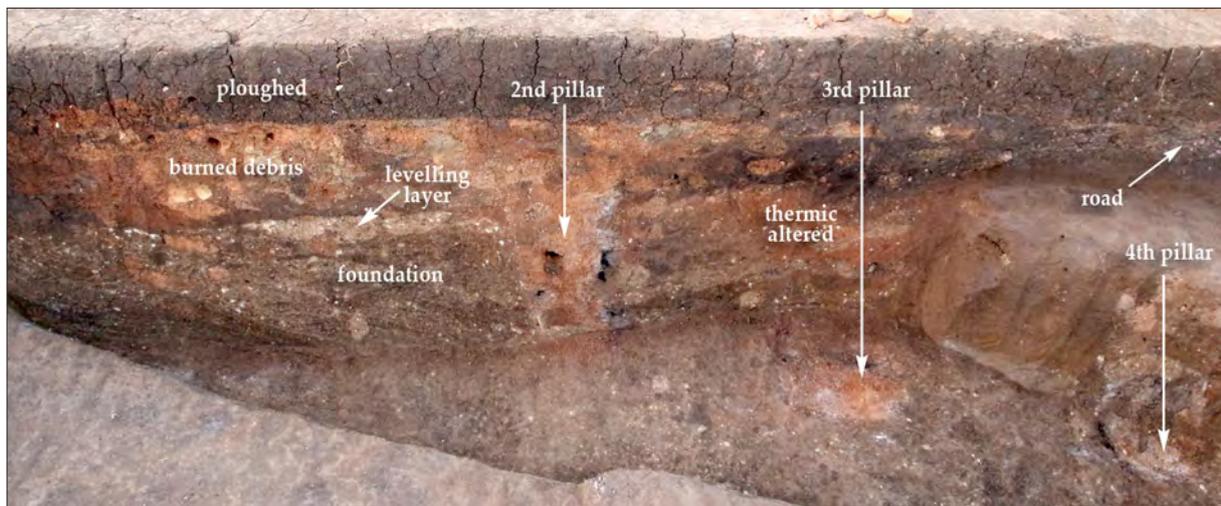


Figure 5. Trench C, snapshot heading south.

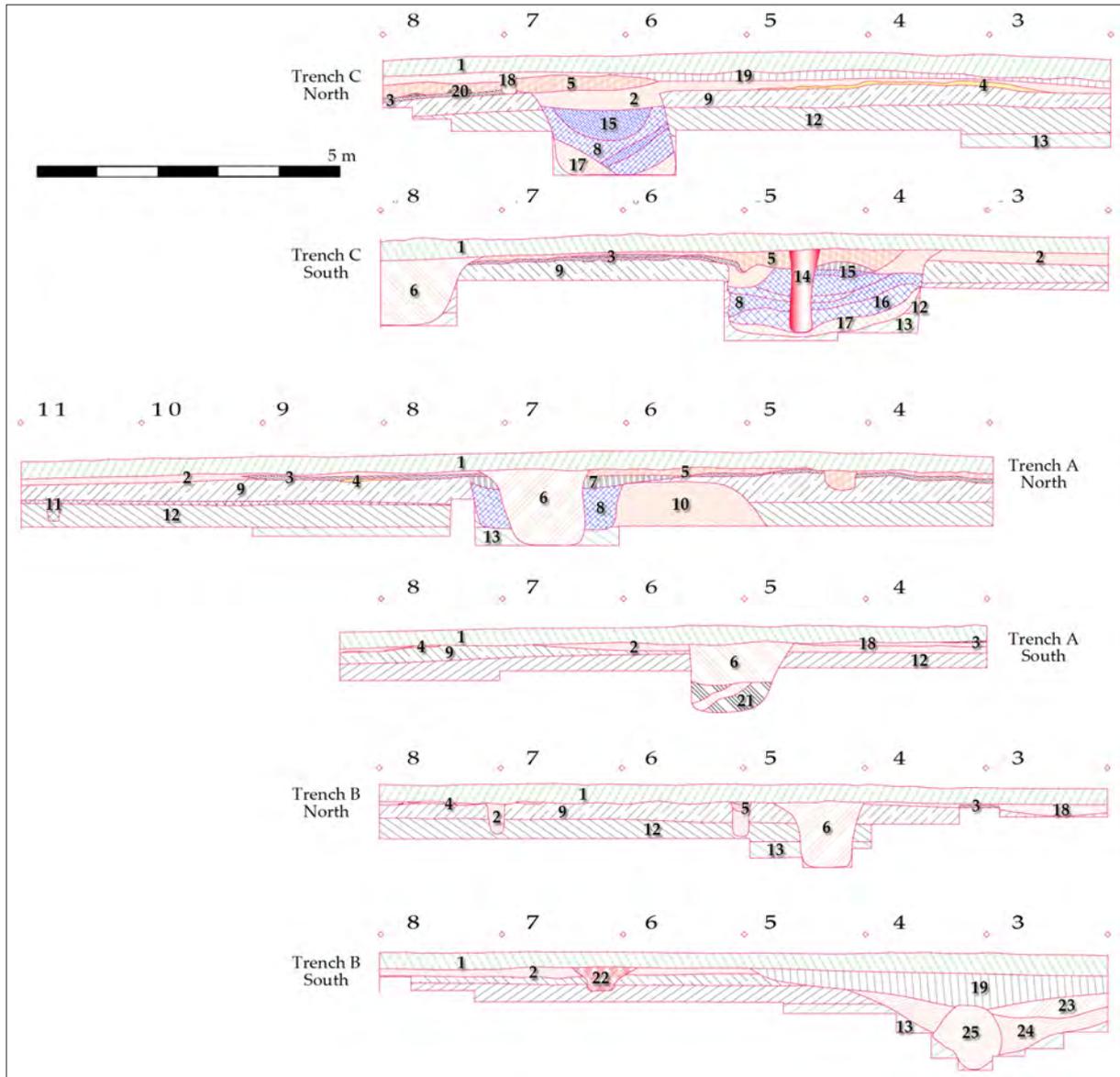
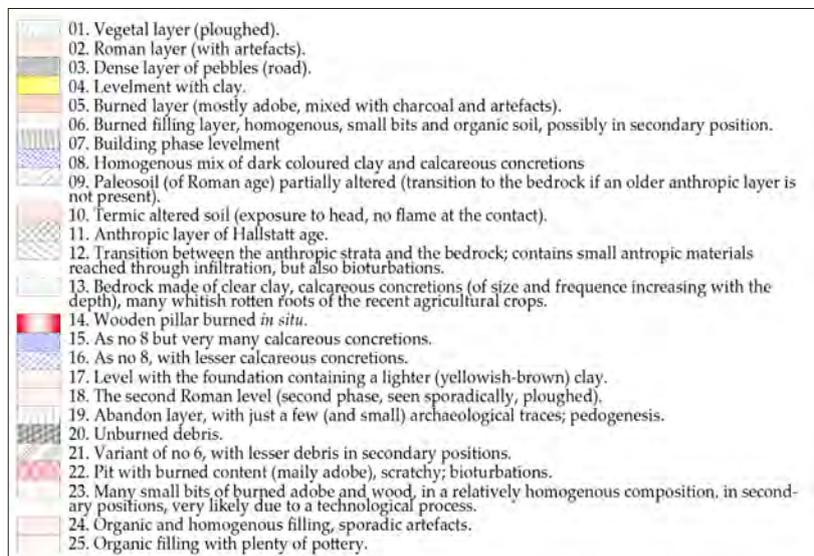


Figure 6. Stratigraphy of the archaeological trenches from 2018. Note that all southern sections are rendered in vertical mirror. See also Figure 7, for the legend of the layers.

Figure 7. Legend of the drawings from the Fig. 6.



A much more interesting question is why those foundations are larger than 1.2 m, when the necessary width is 0.55 m at most. The answer is not a simple one for archaeologists without geological training, but the experience in the field on sites from the southern Romanian Plain was helpful. The clayish bedrock is a difficult media for builders, as the crude clay is expanding in a wet environment (as at the end of the winter) but it loses volume on dry and warm conditions, as at the end of the summer.¹² Therefore it is solid and dens in the early springtime, but displaying large and deep cracks in fall. Such a support for a tall building as a tower is tricky, as the shrinking clay does not provide stability for the pillars. How would help a larger foundation then? Both the plan and the stratigraphy offer some hints. One can notice that the rows of pillars are located on the inner sides of the foundation pits, just at the edges; that means the outer sides, much larger than (apparently) necessary, play a special role. This can be explained by stratigraphic observations. The matter used to fill the foundation is not the returned soil just dug, but a darker clay (compared with the one at the same depth), greyish-light brown, mixed with many calcareous concretions, relatively large in size (up to 2 cm), making about 10-15% of the composition (Figure 5). Such a combination we have seen before in the summer campaign from 2017, at the bottom of the defensive ditch (more exactly on its sides).¹³ Very likely this matter was not prepared, but just taken from the bottom layer of the defensive ditch. The fill of the foundation can be seen at the Fig. 5 as many thin layers with slightly different compositions, tilt towards the centre of the pit. A somehow different picture comes out studying the stratigraphy of the trench A (see the northern section at the Figure 6), where one can see a homogenous content of the fill. Such a uniform look is contrasting with the many-layer filling from the northern foundation (along the trench C, both sections). It looks like for the southern foundation the filling matter was strongly mixed, being poured in a rather liquid (or viscous) estate, but on the northern foundation it was cast-off rather solid, making possible to see each layer.¹⁴

Another interesting thing on the stratigraphic drawings is the situation from the southern section of the trench C. As already said, the northern foundation was dug about 18 cm deeper than the southern foundation. This error was partly resolved by refilling the pit on a height of 22 cm, compressed later by the heavy burden of the building to only 7 cm (see the layer type 17 at the Fig. 6, second row, fifth unit grid). An error in horizontality, about 10 cm, is still there. Concluding this, although the two foundation pits seems very similar, there are though some irregularities, as the base line, the type of filling or the rhythm of the pillars. As regarding the last, one can observe that the two rows of pillars do not stand exactly face to face. As the drawings were performed using photogrammetry, it is unlikely that those unfitted facts could be due to a clumsy archaeological record. The lack of precision could be due to the difficulty of rising 6 pillars about 10 m height (if not more), left them in a large open pit, and positioning them tight until the foundation was filled and dry. This was unprecedented and there was no clear procedure to make it right.

The gate

About the archaeological inventory we have reserved a section at the end of the paper. Nevertheless, it is now the best time to write about a certain type of inventory: the large nails of the gate. They popped up from the very beginning and in large numbers, strongly contrasting with our previous experience on the site.¹⁵ The artefacts are strongly standardized, having a sub-rectangular¹⁶ flat head, a long shank with square section and, if well preserved, it has two bents: one at two thirds of the length, in right angle, and a second one near the point (tip), also in a right angle if long enough. In the Figure 8 one will find the draw for one of the most typical nails found, defining a 'useful length' and suggesting their use. As the double bent is suggesting the penetration of a flat board, and the useful length is always 10 cm or more (up to 13.9 cm), we have supposed that it was fixing together two flat boards crossing each other, leaving spaces in sides. We found 56 nails of this type, of which 43 have preserved the first bent, and 14 are completely preserved. The distribution of these objects is very interesting, as shown into the Figure 9. Almost all the gate-nails were found either on the very line of the gate (the white space), or immediately behind it (see especially the bold figures). We can tell further that the southern part of the gate was broken and has fallen inside, the same area where the broad part of the military equipment was found; a possible outcome is that some defenders were caught under the broken gate.

In 2018 we have found an iron disc, 10 cm wide and 4 mm thick, standing horizontally, at about 6-7 cm below the

¹² Teodor 2018, 177-180 with Figs. 11-12.

¹³ This fits the conclusions of other works performed in the area, more exactly about 20 km north, where the frontier palisade was sectioned in several places, in 2016. The content of those calcareous concretions is increasing, both in size and frequency, proportionally with the depth of the layer. Similar things can be observed on the broken terrace west of the fort.

¹⁴ But not all over. See the layer immediately below the layer marked as 'levelling layer', at the Fig. 5, which is homogenous.

¹⁵ In the previous two campaigns we found just one large construction nail and very few fragmentary ones, although both have intersected barracks; see Teodor 2016, 115; Teodor, Dumitraşcu, Ştefan 2017, 96.

¹⁶ With variations towards a round shape.

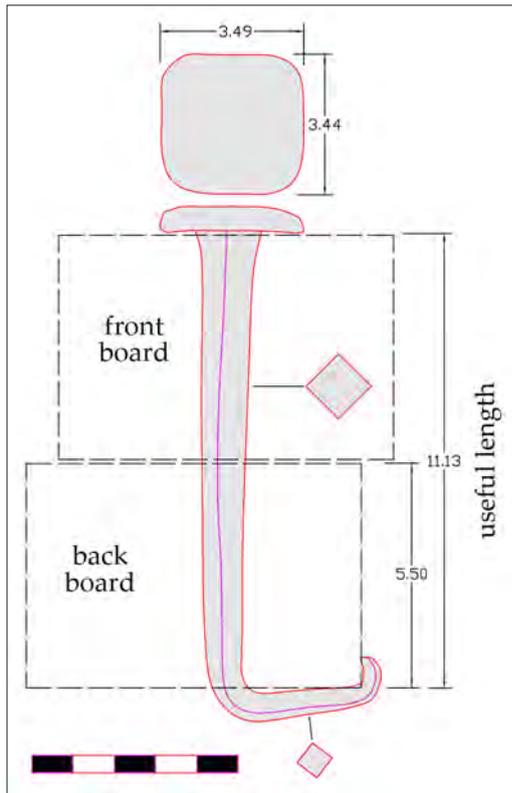


Figure 8. The gate nail ID 411 (2019) and the proposed scheme of use.

Roman times ground level, near the first pillar of the southern foundation and aligned to the back of it (see '280' at the Fig. 9). Allegedly it was suppose to be connected with the gate. In the next campaign we have also found something somehow similar, in a symmetrical position from the northern side of the gate. Notably below the ground level (0.75 m, or 0.3 m below the antique surface) were standing, together, an iron cylinder (93 mm external diameter, 77 mm inner diameter, 75 mm in height), in vertical position (see 424 at the Fig. 9), containing an unusual nail, with a very large head (round, 57 mm in diameter) but having a relatively short shaft (54 mm), with a rectangular section and a tip still very sharp, with the point upwards (Figure 10). These were making the lock system of the gate. The side wooden shaft of the gate, with round section about 7 cm in diameter,¹⁷ has had a strong nail in its lower end, in order to protect the wood from cracking when smashing the edges of the iron cylinder. The weight of the gate was not standing all on this shaft, because the gate was resting in a shallow ditch, U-shaped, made between the iron disc (ID 280) and the cylinder (ID 424). The recess on which the gate is resting is 2.35 long, 0.38 m wide and 7-8 cm deep, connecting the iron disc from south by the iron cylinder from north, defining the width of the gate. The two iron implements on which the lateral shafts of the gate were standing (in closed position) are aligned (between their centres) at 10 cm afar of the eastern (front) edge of the recess, and 28 cm afar of the western (back) edge. Consequently, the gate was resting in the front side of the recess, but at its back would be a gap about 20 cm wide. Although no material witness was found (except the straight and sharp edge of the pit), we can 'fill' the gap with a

wooden board 235 cm long, 18-19 cm wide and 8 cm thick, with the large side standing on the bottom of the recess. Such a device would be helpful for strengthening the gate against strong pushes from outside.

The so-called 'useful length' (from the Fig. 8) has the average value of 12.1 mm, the maximum value recorded being 13.9 mm, indicating the thickness of the gate, but this thickness is composed from two rows of boards, one at the front, in horizontal position, and another at the back, in vertical position. The line of the contact between the front row and the back one should be aligned to the axis between the iron disc and the iron cylinder. The connection between the two rows of the gate's boards and the lateral shafts was made through the mean of some iron sheets, longer than 95 cm, wide between 47 to 37 mm (wider to one end and narrower at the other) and 4 mm thick.¹⁸ At the larger end they have a hook, bent and fixed into the wooden board (Figure 11). Near the same end there is a cutting up, suggesting a violin shape, having a function difficult to guess, and there is no mistake, as long as a second sheet (shorter) has the same shape in the same place. The sheet is also fixed on the boards by the means of iron nails on each side (far smaller than the large nails with two bents); a fifth nail, of the same size (about 4 cm long) was fixed into the lateral shaft of the gate. Obviously, the iron sheet was making the connection between the lateral (vertical) shaft of the gate and the matrix of boards making the main body of the gate. A second artefact, of the same shape, was found *below* the first one, fallen in the hole driving to the iron cylinder. Strange enough, although buried so deep, this iron sheet is broken in half, half of it missing. We suspect that it was lost much before the events which led to the collapse of the tower and its complete destruction by fire, being replaced by the first mentioned sheet, lost later. Of course, in order to work, such connectors between the lateral shafts and the body of the gate should have been many, at least two for each side, but better three, as they have to suspend and lift a gate weighting about 325 kg (including the nails...).

Of course, what we have found is only a part of the implements used to make the gate functional. An example is the number of the large iron nails. They are 56 found, but in order to make the gate it would be necessary much many.

¹⁷ Which could be considered low, giving the heavy burden to carry, but the calculation proved that the gate was not that heavy as thought (for a calculation see below).

¹⁸ Figures for the longer one, better preserved. The second is broken at 54 cm long, having widths between 58 and 38 mm and a similar thickness, but it is missing the bent part.

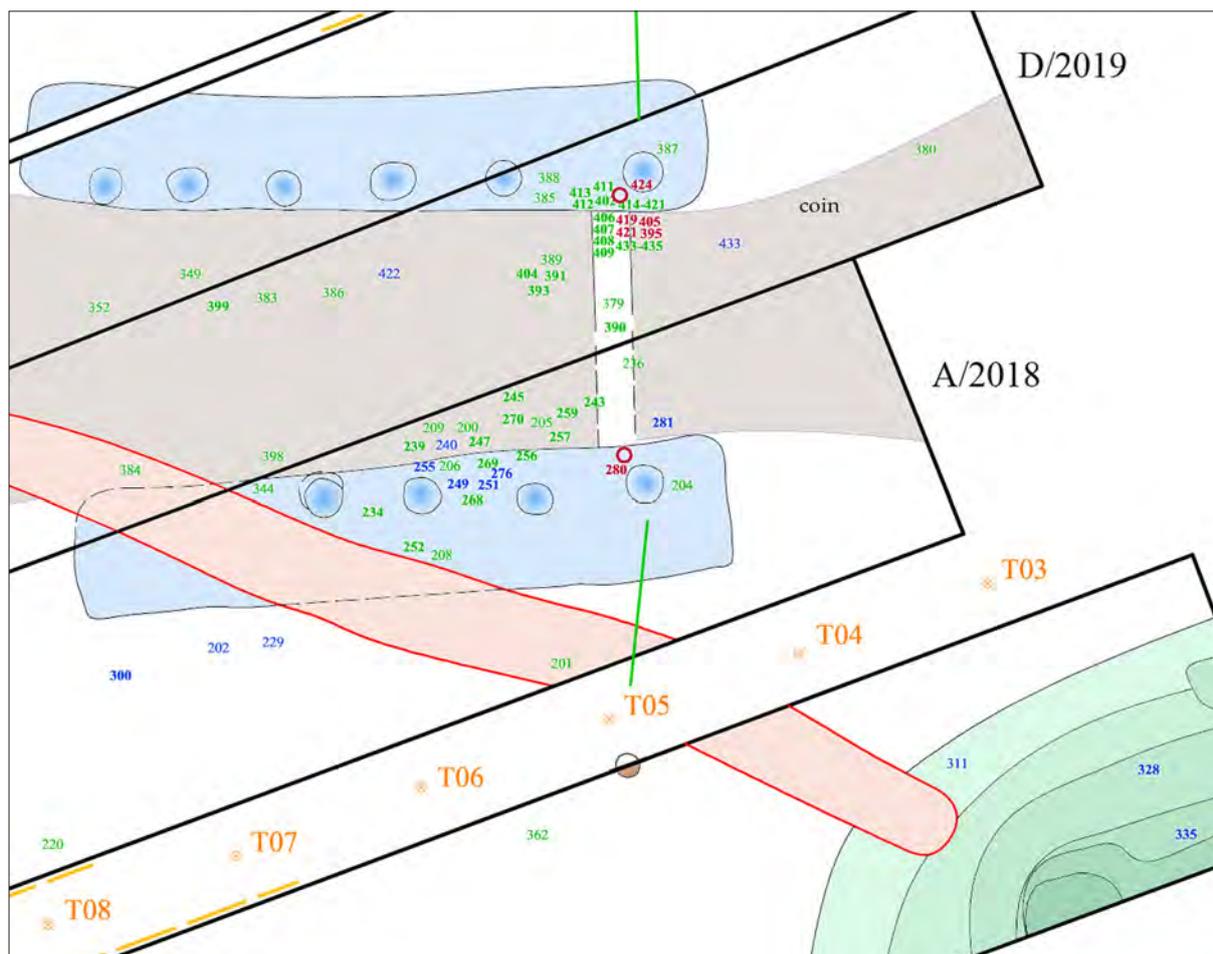


Figure 9. Distribution of some metallic artefacts. Legend: green – gate's nails; dark red – elements of the locking system; blue – weapons and military equipment; bold – below the ploughed layer; normal – in the ploughed layer (in secondary positions).

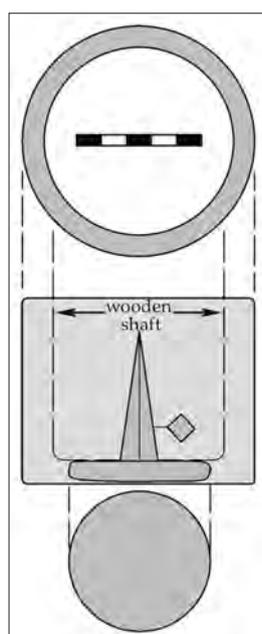


Figure 10. The iron implements found at the bottom of the northern shaft of the gate.

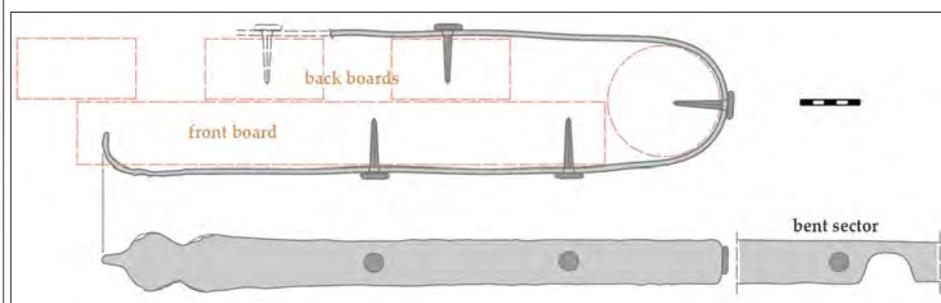


Figure 11. Iron sheet found at the northern side of the gate's recess gap.

What we know for sure is that the body of the gate was made from boards crossing one to another, a horizontal row at the front and a vertical one at the back. If the general dimensions are more or less clear, covering the gap between the front pillars, about 2.4 m in width, and a height around 3 m, the dimensions of the boards can be debated. The second segments of the large nails, after the first bent (see again the Fig. 8) are as small as 2.5 cm, and as large as 6 m; therefore we have proposed a width of 10 cm¹⁹. If so, the front row of boards would have 15 boards, if the interval between them is the same as the width, 10 cm, and the back row has 12 boards,²⁰ in the same condition. In order to put those together, one will need 180 large nails, not 56. The rest of them, from 56 to 180, have been found after the fire and recovered as scrap metal, as the production of iron implements on the site is obviously difficult due to the shortage of the fire wood and the absence of the mineral resources.

Graphical restitution of the gate-tower helped us to understand some things. Between them – the fact that lifting the gate is blocking the window of the first floor (Figure 12). If one should not consider a second floor, then the sentries would not be able to watch the field from the east, and still less to shot arrows against trespassers. More than that, the mechanism supposed to lift the gate – a system of pulleys – should ask some space for itself (even if, for example, they should be located on the side walls), but also for the men who using it. Obviously, the sentries should stay at the second floor, separately by the men in duty with lifting the gate, from the first floor.

Of course, the proposed restitution is only one of those possible. One could add side windows, at least for the second floor. Another problem is the location of the stairs for access to the upper floors. The simplest system is with mobile ladders, installed vertically and pulled back upstairs. The problem is that, in such a case, one would not need a 5.75 m long tower, a 4 m long one being enough. As the building was done, they must have been used a retractable ladder (Figure 13). The design could vary, of course, but what we have intended to mark here is the fact that for a 3 m high floor one will need at least a length of 4 m (better 4.3 m) of the floor's plan reserved for this purpose. As we suppose a two floor tower, we have now to understand that the first floor was congested, having the system of pulleys of the gate in the front part of the sides, a mobile ladder taking 4.3 m from the rest of the tower's length (for descending at the ground floor), on one side, and a reserved place to 'land' the second floor retractable ladder, on the opposite side, and this was pretty much all the available place. This is a second major argument that the tower must have had two floors above the ground level, because only at the second floor could be enough room for sentries, a stock of arms, and edibles for at least one shift.

Obviously, the last two paragraphs are related to the tower, not to the gate. Such conclusions were available yet only after the reconstruction of the gate and the way it works, facilitating a better understanding of the tower, beginning with the number of the storeys and the need of some internal ladders and closing with an evaluation of the available space for military duties.

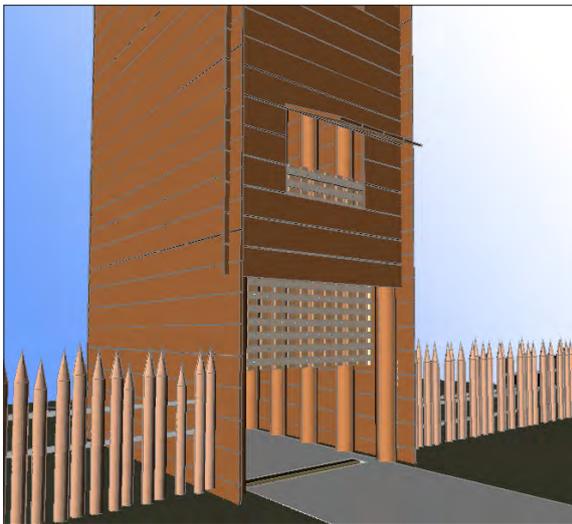


Figure 12. Restitution of the gate-tower, with the gate half lifted. AutoCAD, seen from southeast.

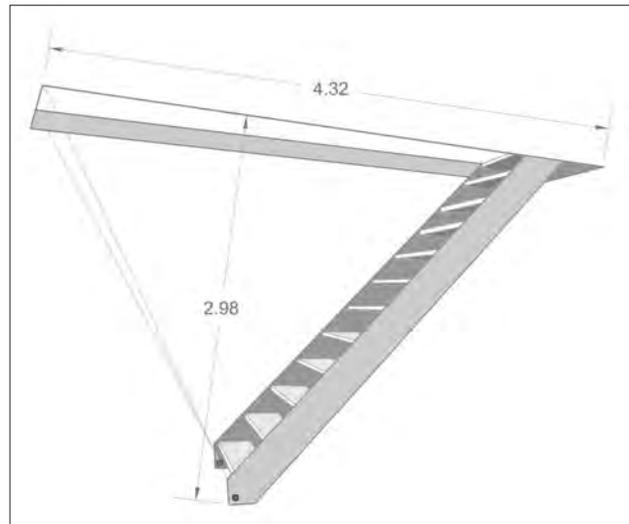


Figure 13. Theoretical model of a retractable ladder, as possibly used within the tower-gate.

¹⁹ A calculation working only in the hypothesis that the nails were pushed on the middle of the boards. This is hazardous... The nails were not all driven perpendicular, as the first bent is not always in the right angle (as the case at the same Fig. 8), therefore such calculations are only indicative.

²⁰ We have now some data for the total weight of the gate (without the frames): if one board has 14.4 cubic decimetres, 27 boards would have 388.8 cubic decimetres (0.389 cubic m), meaning around 280 kilograms (for oak tree planks dried in air, try <https://www.timberpolis.ro/calc-timber-weight.php>) plus 180 nails (300 g each), or a sum around 325 kg.

The road

The entrance way to the fort is made only from pebbles, the only kind of stone available north of the Danube, also about another 100 km north of the fort. As no relevant water course is around (Olt River is about 20 away, westward), there were no reasonable ways to bring stone from afar. The pebbles are making a geological layer, known as Frătești-layer, 25 m below the surface of the plain, but the valley located westward (Călmățui River Valley), just meters outside the fort, is deeper than that, offering access to this resource.

The pebbles were placed directly on the antique ground (located at 45-47 cm below the actual surface, with small variations here and there), the layer of pebbles being nowhere thicker than 7 cm. Despite this, the road was very dense, being necessary to use the picks in order to remove it. It was probably not meant for heavy carts, but it was effective to keep the water and mud away.²¹ Its thickness varies: thicker outside the tower, in front of the fort, but slimmer in the rear part of the tower. Inside the tower we have found also pebbles, but the layer was thin and rather discontinuous, probably due to the fact that the tower had a roof and no rain was reaching there.

The road has also different widths. It is larger both in front and in the rear of the tower, its width being restrained by the width of the gate, 2.4 m. The usual cart's width in Roman times is less than 2 m.²²

The palisade

The enclosure of the fort is one of the problems of the archaeological team from Băneasa, proved perennial, year after year. The small excavation from 2016 hit – by chance – one of the poles from the palisade, strongly burned.²³ It had about 35 cm in diameter and was not deeper than 40 cm, but at the time we thought that it was far longer, the upper layers being lost by erosion. We had other expectations, as in the same year we made some test diggings at the palisade of the frontier line, where very large logs were buried in deep trenches.²⁴

In the next year, 2017, at the opposite corner of the fort, at northeast, we had troubles finding the palisade. We did not find a palisade's trench, but poles' pits, here and there, relatively small (both as diameters and depths) and not very well aligned.²⁵ Between those there were very likely even smaller pits from even smaller poles – or better 'sticks' – but the field is ploughed down to 30 cm. Our 'palisade' proved to be rather a fence, having just an – as well – small rampart, of maximum half a meter tall. As detailed expressed then, the whole defensive system is rather weird: a large and deep ditch, an unusual long berm (close to 10 m), making impossible the view from the palisade to the bottom of the ditch, that poor fence named 'palisade', and the absence of a corner tower. The defensive was completed by spiky sticks planted at the edge of the berm towards the ditch. Note that the poles of the palisade from northeast were not burned, although the adjacent barrack was completely consumed by fire.

The same scenario has been repeated in 2018 and 2019: strongly burned tower-gate, but no palisade poles clearly seen around, though much effort was paid for. In the reconstruction of the fort, as proposed here at the Fig. 2 (where the green line is the palisade line), the burned tower-gate is protruded in front of the palisade; unfortunately, in those areas of the excavation no pits occurred, large or small. Due to this crisis – where the palisade is?? – we have watched attentively any possible hint, as the levelling layers of clay, normally made in the intense traffic areas *behind* the palisade. The distribution of those areas are marked at the Fig. 3 with yellow dashed lines, but the value of this set of data is partially compromised by the fact that parts of the antique ground level were upper, being ploughed (see Fig. 6, Trench A South to Trench B South).

There have been found just a few pits having the right shape and dimensions to be a post-hole. One of them is located on the northern section of the Trench B, being cylindrical, 57 cm deep and 27 wide (see again Fig. 6, Trench B North). The pole was not burned, rather recovered, but in the upper layer of the later filling there are clear remnants of the fire from around. Another cylindrical pit at the northern section of the same trench, at the grid line 7, is a bit smaller (51 x 27 cm), but its stratigraphical relationship with the clay levelling is cut by the plough. This hole could mark a first phase plan of the palisade (no traces of fire were found in the filling), matching our initial hypothesis that the tower-gate was protruding the palisade, but no other clue came to confirm it. A third pit, located on the southern section of the Trench B, has wrong dimensions (39 x 43 cm) and the wrong location to be part of the palisade. A fourth pit was found on the northern section of the Trench E, near the grid line 3,²⁶ was

²¹ The burned rubbles of the tower were found directly on the pebbles' road, with no soil traces in between.

²² Van Tilburg 2007, 52-54.

²³ Teodor 2016, 112-113 with Figs. 4 and 6.

²⁴ Haită, Teodor, 2016 (published only as Interim report of the research project, in Romanian).

²⁵ Teodor, Dumitrașcu, Ștefan, 2017, 87-89, with Figs. 5-6.

²⁶ Not shown in a stratigraphic depiction, see yet the Figure 3 for its location.



Figure 14. Fence of braided threads, on the making. Household from Călinești-Oaș (19th century type), County Museum Satu Mare (north-western Romania), ethnographical section. Photo-credit Ciprian Honca, courtesy Liviu Marta.

very discreet (not burned of course), as we were able too see it only below the depth of 66 cm (though the antique ground level is at -45), it is cylindrical as expected, it descends well, at - 105 cm, but has a modest diameter, only 20 cm, meaning a pole not wider than 15 cm.

This is the data we can deal of: a few post-holes, located far from the tower,²⁷ aligned (far from perfect) to the front piles of the tower. The spaces in between we have to suppose as filled with slimmer sticks, superficially buried into the ground and connected by braided threads, in a manner close to the way the Romanian folks were doing their fences up to our days (Figure 14). We can also suppose that the construction was covered in clay or adobe, in order to prevent it to burn too easy. Such ‘plasters’ were observed at the frontier palisade.

The water moat and the workshop

The southern foundation of the tower is cut, at its western side, by a ditch deeper than one meter, crossing the excavation from northwest to southeast; two of the pillars, numbered 5 and 6, were disrupted (see again Fig. 3). The upper part of the context is cut everywhere by the ploughed layer, the moat being obviously the latest intervention in the area, before modern agriculture. The widest part – around 85 cm – is the central one, both ends in the picture being narrower, 59 cm at northwest, and 68 cm near the rounded end from the southeast. The sides are near vertical, with flat bottom at about -1.35-1.4 m from the present day surface, meaning that in absolute altimetry it is slightly tilt towards south, as the entire area. Its eastern end is rounded near a large pit (in green at the Fig. 3). In gross lines, this pit could be nothing else than the former defensive ditch closing at the gate. As suggested by the magnetometry (Fig. 2), the line of the defensive ditch would cross the area at the half way between the electric pole from our days and the burned tower-gate of the fort’s first phase. The expected depth of the defensive ditch is over 3 m, but this is obviously only the rounded end towards the pebble road. The former military ditch, left unused after the fire, received other use, as suggested by the two small pits made inside, one near the southern section of the archaeological trench B, and other near the eastern section of the same. Both smaller pits were filled with what is commonly named ‘garbage’ in archaeology: broken pottery, a few animal bones, also some small finds. Some metallic objects were lost here, possibly within the first phase, when the ditch was constantly and naturally filling up.²⁸

The moat was cut through the burned remains of the tower-gate. The same content turned back later, the filling matter being relatively homogenous, containing bits of burned adobe on the entire height of the profile. The process of refilling seems a natural one, over time, modern ploughing completing it.

The moat and the large pit (former ditch) seem functionally connected, because the moat was obviously made in order to collect rain water and drive it near the large pit. The simplest hypothesis would be a workshop for pottery, but the magnetometry does not offer a clear clue.²⁹ A workshop dealing with clay and lots of water has to be anyway connected with mixing them, in order to produce a clayish mixture, either for pottery or for construction materials, like adobe. As stone is not available, and the broken bricks are difficult to find across that field, adobe was for sure

²⁷ For the northern pole 5 m, for the southern pole only 2.5 m, which could be the real pattern. We cannot outcast the possibility to have missed some of them, as they were very difficult to see even in stratigraphy.

²⁸ In the case studied in 2017, at the north-eastern corner, in about 25 years of service the defensive ditch lost one meter of its depth by clogging (Teodor, Dumitrașcu, Ștefan 2017, 86-87, Fig. 4). Its final depth, before the fire, was almost 2 m, similar then with the bottom of the large ‘pit’ from 2018.

²⁹ Looking back on the Fig. 2, a possible potter’s kiln would be located about 10 m southward.

the main construction material. As commonly known, the clay cannot be used as extracted from the subsoil,³⁰ as it must be mixed with water and some organic matters (like manure and grass), being put on the wooden structures in wet condition. The obvious fact, on the high terrace flanking the Călmățui River, is the absence of water. A possible (former) small spring was spotted on the high resolution terrain model, about 140 m east-southeast of the gate, but the configuration of the field is not helpful, as the spring is at a lower position. Collecting rain water seems then the only reasonable solution. As the moat was dug down to the dense layer of clay (the bedrock), the water is contained a few days, before draining into the soil, a situation seen several times in 2018 campaign, which was an unusual rainy summer.

Inventory

The total area of the excavation in 2018 and 2019 is 120 square metres. Nevertheless, about 95% of all discoveries are located on only 25 m² under the ruins of the tower-gate, mainly towards its front. The most frequent artefact is a large nail with a double bent (Figure 15), standardized and obviously connected with the gate (see again Fig. 9). No less than 56 artefacts of this type were found. There are also other types of nails, but far lesser. There are only two long nails, with the shaft greater than 13 cm, with no bent, clearly needed for other uses. All the rest – 12 – are relatively small sizes nails, as those already presented at the Fig. 11, or others, still smaller, which would fit wooden boxes or other furniture items. Interesting to note, there is no clue that the iron nails would have been used for the construction of the tower itself, or even parts of it (like the ladles), coming thus to the same conclusion as in the previous campaigns at Băneasa: they were jointing the logs of the buildings without using iron nails, but wooden wedges. This could sound weird for the Roman civilisation,³¹ but such techniques are usual in the vernacular architecture, at least in Romania, and turns back in fashion in our days. The reason to do so stands in the poor resources at the site, mainly for the firewood needed in smithery.³²

The archaeological inventory collected in the ruins of the tower-gate is not exactly rich, but divers, containing weapons (both offensive and defensive), personal adornments and tools.

The most interesting item is a small brooch made of bronze (Figure 16/1). It depicts a *gammata crux* with double bents on each arm, turning right, on a square plan of 32 mm. The spring is absent, and the catchplate is type 16 in the classification made by Sorin Cociș.³³ This kind of fibula is rare everywhere, including Dacia, where only 5 other similar items are known, the artefact from Băneasa being the largest of all.³⁴ From those analogies, only two have arms with double bents and only one has the arm bent clockwise.³⁵ A variant is made of brooches with four horse heads, added by Sorin Cociș to the same type (33), and has 8 items recorded in Dacia,³⁶ all larger than the simple model, made of crossing bars at right angles. Speaking of its small dimensions it worth mention that the utility as cloak fastening is doubtful, especially on winter clothes. The item from Băneasa – which is one of the largest in its class – has between the spring and the catchplate only 28 mm, but this would shrink at maximum 24 mm on the brooches from Micia or Porolissum.³⁷ We have to ask then if the artefact is a ‘fibula’, or rather a badge, a sign of authority, if not even a decoration.³⁸

Although the swastika-like brooches are gathered by Sorin Cociș in the same type, we have doubts that their meaning, chronology and utility are the same. Therefore we will discuss further only the case of the simple pattern, made out of straight bars. First of all, its chronology is restricted to the second part of the second century and the first half of the third.³⁹ Secondly, the swastika pattern is well related to the military sites.

³⁰ This is still happening in our days, because it is the cheapest raw material (not to say for free), and they are collecting it from the same area (to be more precise – from the ravine west of the fort).

³¹ Or not. How many archaeologists did ever count the iron nails in order to see their frequency?

³² See also Teodor, Dumitrașcu, Ștefan 2017, 90, 96.

³³ Cociș 2004, 28, plate CLXX/16.

³⁴ Cociș 2004, cat. 1626-1630.

³⁵ Unfortunately of unknown origin (Cociș 2004, cat. 1629).

³⁶ Cociș 2004, cat. 1631-1638. Interesting to note, all items with horses heads are rotating right. This sub-type seems more popular not only in Dacia, but also in Moesia Superior (Petcović 2018, 82-85, where is suspected the main centre of fabrication) and at the Lower Danube (Haralambieva 2014 for northern Bulgaria and Petcu 2019 for Dobrudja). Note that all horse-head fibulae are larger than those made of bars.

³⁷ Cociș 2004, 212, cat. 1626-1627, but still less on the brooch from unknown place no. 1629.

³⁸ As suggested by Petcović 2018, 84-85. The fact that the users were military is suggested also by Cociș 2004, 136.

³⁹ With some variations: 3rd to 4th century at Buora 1992, 107, working yet with just a few examples, or the first half of the third century at Gudea 2002, 104 (later cited by Cociș 2004, 136). Sorin Cociș (2004, 136) gives the lapse from the third decade of the second century to the same stage of the third century, but he was discussing undifferentiated the two sub-types. The horse-head subtype is surely older, inspired by other artefacts with four horse heads (as illustrated by Peretu hoard, fourth



Figure 15. Large iron nails with a double bent, used in the construction of the gate. Selection, all from 2018, complete (first two rows) or fragmentary.

An interesting item related to both military and swastika's symbolism is a golden ring with a rectangular panel, inscribed in niello (?) LEG(io)/+V+/MAC(edonica), where + is a *gammata crux* turning right. The place of discovery is not known, the artefact publicly occurring only in an auction in Munich, years ago.⁴⁰ Nevertheless, as its chronology seems later than 170 and earlier than 250, the most likely place of discovery (of course 'legal') is the legionary camp *Potaissa*, in Dacia Porolissensis. From the same archaeological site came out, in legit excavations, another ring, from the class of key-rings, made of bronze, having on the 'key' part an open-work depicting a swastika.⁴¹

The symbol appears on other categories of artefacts, as pottery. Such is a Roman bowl, discovered at Ilișua, on the northern frontier of Dacia, of good quality, yellowish-red, with red paint, decorated with stamps (palmette – or pine tree – and circles) and a large cross with bent arms (turning left) made with a roulette. The archaeological context is not known, but that kind of pottery is rather of the second century than of the third.⁴² Although rarely seen, the symbol will stay in use up to the late sixth or early seventh century, especially in the southern Romania.⁴³

Another decorative artefact is a thin bracelet made of bronze, with the hook absent and the ring partially preserved (Fig. 16/2). Its sizes are suggesting a female user. This is the only one item – from the short list of relevant artefacts – surely related to the second phase of the Roman archaeological site, found in the upper filling of the former defensive ditch.

Two pieces of offensive arms are present in collection: a spear and a catapult bolt (Fig. 16/3, 4). The first is a spear with a very long socket (103 mm from an overall length of 189 mm, or 55%) and a leaf-shaped body with a strong median ridge. The strong socket is suggesting that it was a close range weapon, therefore a lance, very likely used by mounted soldiers.⁴⁴ The problem here is if we could assume that the garrison had such type of cavalry, and if not to suppose that the barbarians raiding the fort were – very likely – Sarmatians, the masters of this kind of combat with *contus*.

The catapult bolt (Fig. 16/4) is rather short (78 mm), with a square section tip and a relatively long socket (38 mm). It was found in the defensive ditch located immediately south of the tower, and could get there in both ways: thrown by the besiegers or lost by the defenders, when the tower collapsed, as the distance from the tower to the spot of discovery is only 4.7 m. In the previous campaign (2017) we found another bolt, supposed than to be rather lost by the defenders than shot by the enemy, due to the location and position (on the porch of the barrack, standing on the ground level).⁴⁵ A second catapult bolt is strengthening the hypothesis; more, it could be a very good explanation of the unusual tower, made of 6 pillars on each side, when a simple, square plan tower, using 4 pillars at all, would accomplish apparently the same purpose. Such a hypothesis says that they needed a strong tower, able to take the kick of a catapult blow, therefore a long tower would be recommended.

In the same respect could be a fragment from an iron cylinder (maybe slightly conical, see Fig. 16/5), but there is conserved less than a quarter of its diameter and maybe half of its height. As morphology it could be a catapult washer,⁴⁶ but critical elements are missing (compare with Figure 17), as the horizontal sheet to be fixed on the

century BC, see Petcu 2019, 115, Fig. 4/5 or Buora 1992, Plate 2) and lives surely later, up to early fifth century (Petcović 2018, 83). The chronology for Lower Rhine is tighter, between 176 and 250, but the artefacts seem even rarer (van der Velde 2008, 234-237; Driessen, Besselsen 2014, 616-627), therefore might not cover the entire span-time of production.

⁴⁰ At Gorny & Mosch. Giessener Münzhandlung GmbH. The item is recorded in EDCS, no 960, giving it some credibility, although the niello inscription does not look exactly right. The artefact could be easily found on Internet. Lots of antique artefacts decorated with a *gammata* cross can be found on auction web-sites, of a great diversity of designs and (pretended) places of discovery, from the British islands to Lebanon. We found at least 10 artefacts very close to our fibula at Băneasa, including with a double bent to the right, but they are not as save as desirable to make a discussion about. As many times as dimensions are given, they fit inside the known sizes of the type (23-33 mm).

⁴¹ Nemeti 2017, 54-55, with Plate XXIV/4. The author is doubting our older opinion (Teodor, Nicolae 2013, 170) that such objects were already in the third century symbolic „keys”, also that ring's diameters would be gender specific; nevertheless, the outer diameter of the ring is 17.7 mm, meaning that the inner diameter could be at most 14 mm (no drawing is provided), but more likely 13. At this dimension it cannot be a male ring, but possible a child ring. Why was it found in the legionary camp – it is a completely different discussion. Why would a woman or a child wear a ring with a *gammata* cross is a good question, because it cannot be an authority attribute. We would say to keep the good-luck „locked”.

⁴² Protase, Gaiu, Marinescu 1997, plate XXXV/3.

⁴³ Teodor, Stanciu 2009, esp. 131-138, figs. 1, 11, 15, 18, 20, 44-47.

⁴⁴ Bishop, Coulston 2006, 130-131, Figs. 75/2 and 76. We found similar artefact on 2008, of the exact same size, in Răcari fort, but with a longer tip and a shorter socket (see Teodor 2003-2010, campaign 2008, Fig. 8). Due to the military unit known for Răcari (*Numeri Maurorum S*) the best probability is being a lance for a mounted soldier.

⁴⁵ Teodor, Dumitrescu, Ștefan 2017, 95 with the Fig. 11. Considering the state of conservation it might be used ammunition, therefore a final resolution will have to wait other discoveries.

⁴⁶ Bishop, Coulston 2006, 135-137, Fig. 82/1.

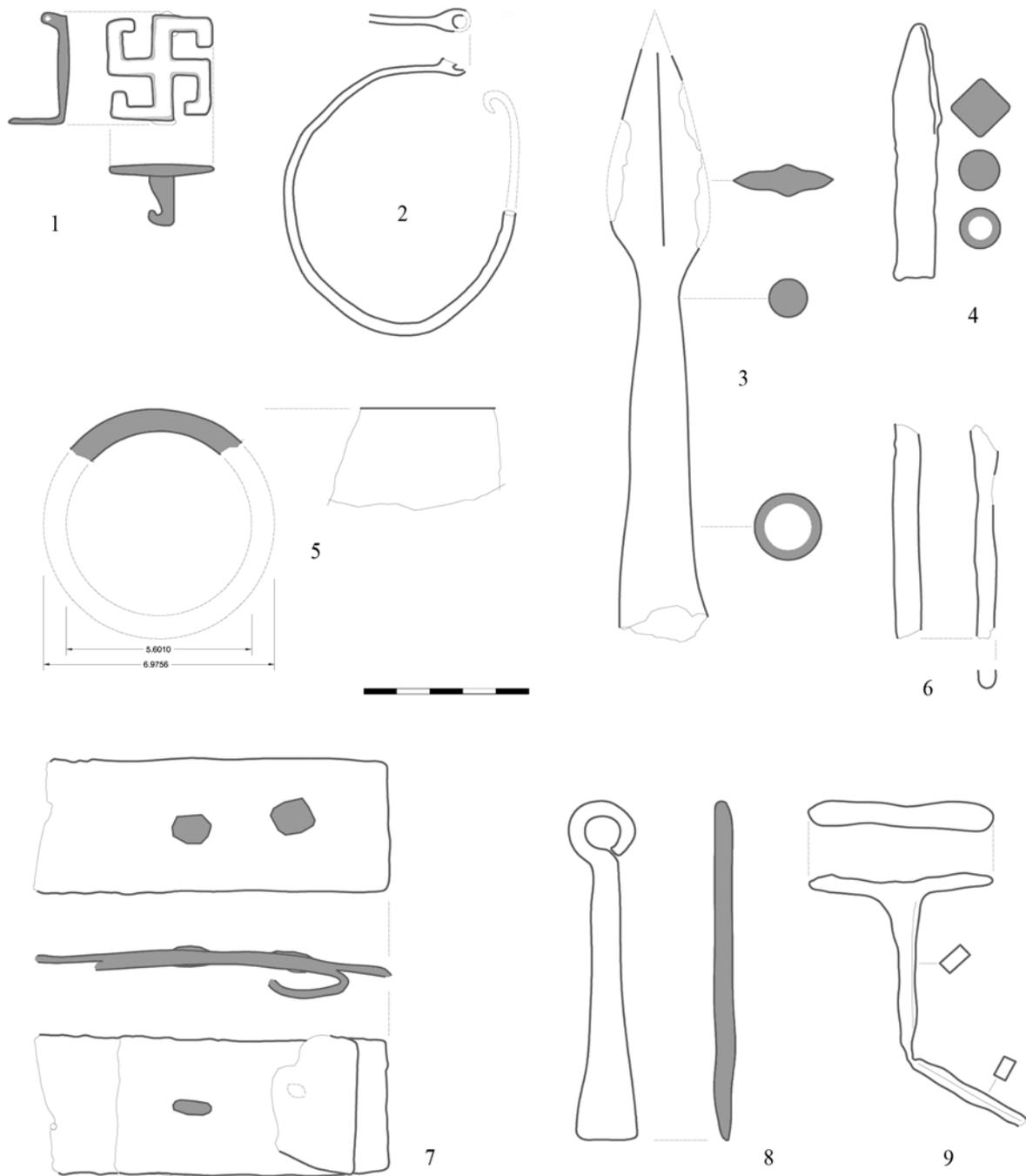


Figure 16. Metallic inventory (selection). 1, 2, 6 – bronze; the others – iron. No. 2 from the second phase all the others from the first phase.

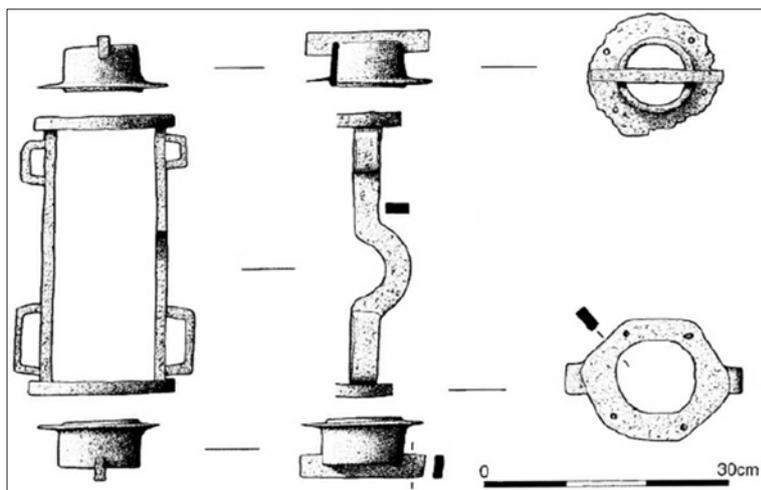


Figure 17. Analogy for the catapult washer (Fig. 15/5), after Bishop, Coulston 2006, Fig. 82.

frame, also the upper groove for the iron lever.⁴⁷ If so, the supposed catapult would be rather a small one,⁴⁸ and if the calculations cited by Campbell are good – then it would shot arrows about half a meter long,⁴⁹ fitted with the relatively short bolts discovered at Băneasa. There are few catapult arrows found within their wooden shaft, as the one from Dura Europos, having a bolt 95 mm long and a total length of the arrow of 46.3 cm.⁵⁰

Another interesting item is a bronze sheet, relatively thin (about 1 mm), 65 mm long, bent longitudinally in U shape (Fig. 16/6), which might be a shield binding, i.e. keeping together the wooden boards. On the analogies found⁵¹ the space closed by the U shape is larger, about 8 mm, compared with Băneasa artefact, on which we can measure about 6.6 mm, but the object is deformed by the weight of the soil above. On the same analogy there are rivets at every 10-12 mm, but our artefact is shorter than that. Although there is no certainty, we think it is a binding for an oval shield (from the side part).

Several sheets of iron were found in the southern part of the tower, mainly towards the front, all relatively up, near the limit of the ploughed layer (27-30 cm deep), almost all in a very bad shape, broken and heavily rusty. Only two of them, ‘welded’ together, were preserved in a relatively better condition (Fig. 16/7). The longest of them is 107 mm long, the width being, for both, 41 mm. They could be parts of *lorica segmentata*, although sheets having a width of only 40 mm are rare.⁵² Moreover, the number and location of the holes are far from clear, as the restauration is not finished at this time.⁵³ The articulated plate armour is usually associated with the legionaries,⁵⁴ but in this case it is almost impossible, as no legion was stationed in *Dacia inferior*. The re-enactment⁵⁵ showed that producing a *segmentata* is cheaper than a *lorica hamata* or *lorica squamata*, but these conclusions are drawn on modern technologies. Looking at the antique monuments is suggesting that *segmentata* had yet a certain prestige and very likely was worn by high ranking militaries, therefore we can presume that an officer lost his life and armour defending the gate. Notably, the iron sheets presumed of originating from articulated plate armour were not found in the exact same area as the *gammata* brooch.

The last two objects on the Figure 16 are very likely tools. A chisel ended with a suspension loop, 103 mm long, seems part of a personal tool kit,⁵⁶ lost in those events (Fig. 16/8). Looking at dimensions it could be used for

⁴⁷ Campbell, Delf, 2003, 9, 39-40.

⁴⁸ Although still smaller are known (Campbell 2002, 169-170).

⁴⁹ Campbell 2002, 160.

⁵⁰ Bishop, Coulston 2006, 169, Fig. 108/1.

⁵¹ Bishop, Coulston 2006, __, Fig. 49/1, 2.

⁵² Thomas 2003, 126 with Fig. 81 (cat. 34-37), 128 with Fig. 82/65, 132 with Fig. 83/cat. 113-118. The most typical widths of the sheet are around 55-60 mm.

⁵³ Two relatively large iron rivets are holding in place (Fig. 16/7), but the way in which the two plates are working together is not clear. The only analogy of a plate with two large rivets comes from Windisch (Thomas 2003, 134, no. 117), but only one plate is present, explained as „portion of a girdle plate, retaining two large leathering washers”. Our plates could have also other smaller holes, not visible on the actual estate of conservation (rusted). One cannot outcast other purposes of the plates, but none came into our minds.

⁵⁴ Bishop 2002, 91.

⁵⁵ For the relevance of the re-enactment for experimental archaeology see Bishop 2002, 15.

⁵⁶ There are many artefacts having loops, holes or other means to be hang (for instance Jackson 2015, Fig. 453/1-5, 11, 23; Fig. 454/50-53), as spoons, nail cleaners, tweezers. Miniature tools, as rendered in Șimleul Silvaniei (Szilágysomlyó) hoard (at

limited needs, as working on wood or leather. The last implement, Fig. 16/9, has a handle suggesting that it could be used like a drill,⁵⁷ but the tip is missing, along with the supposed helical section.

A burned clay ball, with diameters measured between 26 and 29 mm, was found in front of the tower, in the level of debris. It is obviously a sling shot, more likely to have been used by the besiegers. For an area with no stones, a clay sling shot is not quite a surprise.⁵⁸

We have collected very few pottery sherds and only from the left-rear part of the tower, at the western end of the trench E (Fig. 3), mixed with the debris of the tower (burned adobe, at least 15 cm thick, the ‘isolation’ put on the wooden walls). Obviously the food supply of the squad was all deposited in that corner. Other a few sherds were collected at the opposite part of the digging, in the refuse pit named (at the Fig. 3) ‘workshop’, but all those are remnants of the second phase of the Roman site.

One single coin was found in these two campaigns, laying on the road, in front of the gate (Figure 18; see again Fig. 9 for location). It is a denarius minted for Caracalla in 213,⁵⁹ staying in the small gap between 208 and 223, as are dated all the other 5 coins found in the excavation.⁶⁰ This is securely dating the first phase of the fort after 200 and before 225 (or so).



Figure 18. Denarius (Caracalla, RIC IV/1, p. 241, no. 208, Roma, year 213) found in front of the gate.

Conclusions

In 2018 and 2019 we have dug at the middle of the eastern side of the Roman fort at Băneasa. What we have found is basically a tower-gate (Figure 19), unusual from several reasons in the early third century. First, we have only one tower, not two, serving as gate.⁶¹ Secondly – it is its plan, almost twice long than wide. Thirdly – the weird

Kunsthistorisches Museum Wien), had probably replicas in real life, at normal scale.

⁵⁷ No straight analogies were found. Note that usually the Roman drills for wood have the middle section round, not rectangular.

⁵⁸ Their normal shape is egg-shaped (as British Museum 2007,6002.364). They have been in use by the Roman army, as well illustrated by discoveries at *Novae-Čezava* (Serbia), where 147 specimen are known, from which 90 were gathered in a deposit (Vujović 2009, 251), described as „biconical”, „oval” or „olive-shaped” (idem 253-254), not globular, which is not the best case. The more or less ball shape clay shots are not absent in the records, as seen at Drumquhassle (Masse et al. 2002, 156, 158-159, Fig. 4/11-14, in a Roman fort of Flavian date), where they are currently described as „ovoid”. In Britain the round shape sling shots are usual along the Antonine Wall (idem, 156), therefore after the mid second century.

⁵⁹ Data by courtesy of our numismatist, Mihai Dima. The coin was partly affected by a blow and by fire, but it is not worn-out.

⁶⁰ Teodor, Dumitrașcu, Ștefan 2017, 91. First coin in that table is earlier (Antoninus) but it is also very worn-up, lost many decades after minting, found on the surface, before our research project. Notably, the only other coins found at Băneasa, as results of the diggings made by Cesar Bolliac in 1869, were struck under the same Antoninus Pius and Caracalla (but no other details are available and the objects are lost, see Cantacuzino 1945, 446-447).

⁶¹ There are extremely few references for such a construction and none really close; one would be Qasr el-Hallabat, in Arabia, with foundation inscription dated 212 (Lander 1984, 216, Fig. 129), which is a square fortlet of 35 m, with only one gate, with square towers at the corner, made of stone, of course. Another one, rather a small fort (50 x 76), from Diyate (Syria, see Lander 1984, 228-230, Fig. 137), with square towers with small projection outside (therefore early third century), has (probably) two gates: a „normal” one, flanked by two towers, and another one (uncertain), using a tower as gate (infantry

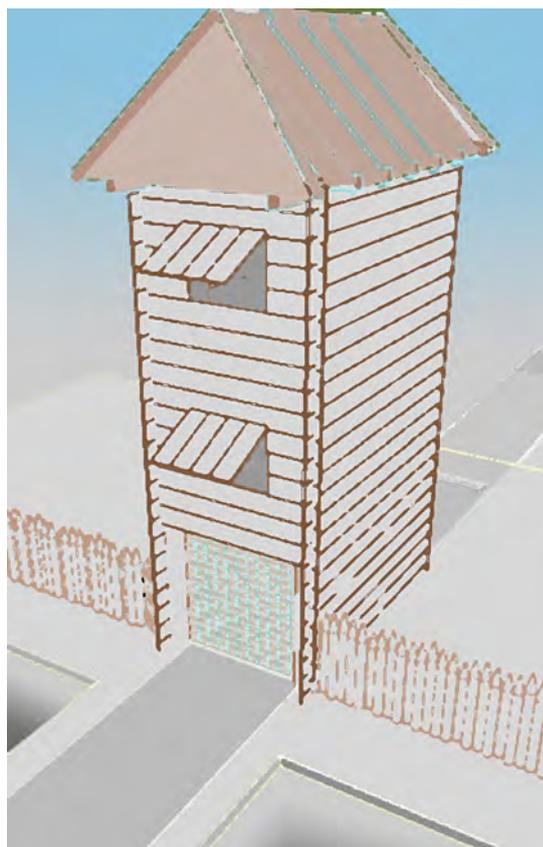


Figure 19. Restitution of the area of the eastern gate.
Sketch. View from north-east.

foundation.⁶² The excavation confirmed older known facts, as the almost complete lack of bricks, tiles or construction iron nails, except at the gate itself, facts previously explained by environmental conditions.⁶³

The first phase of the fort perished in flames, at about the end of the first quarter of the third century. In the rubbles of the gate have been discovered clear traces of a fight, being lost – between others, parts of the tower-gate – offensive arms (lance, a catapult bolt and a catapult washer), defensive means (a shield bidding, two iron sheets from *lorica segmentata*), and small tools (a chisel and a drill), most likely from a personal repairing kit. A swastika brooch, very likely a badge of a military leader, was also found in the rear part of the tower.

As weird as it is, Băneasa fort is the largest on the new frontier, made at the threshold of the second and third century, known as *Limes Transalutanus*, giving a special ‘inside’ for a military line made in relatively precarious conditions and using many improvisations, as previously stated for the entire line between Danube and Argeş River.⁶⁴

A special note – also in the key ‘weird’ – is made by the contrasting dimensions of the tower-gate and the very poor nearby palisade.

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entrance? it is too damaged to tell). Another analogy would be Bewcastle, at the Hadrian Wall, with the stone circuit made under Severus, having a weird double gate under a single, broad tower (Lander 1984, 192-194, Fig. 110).

⁶² For this we were not able to find absolutely nothing similar and most likely it is due to the environmental conditions around the site.

⁶³ Teodor, Dumitraşcu, Ştefan 2017, 96; see also Teodor 2018, 170-171.

⁶⁴ Teodor 2017, 897, 900-902.

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