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NOVAE — WESTERN SECTOR (SECTION XII), 2011–2018 PRELIMINARY REPORT ON THE EXCAVATIONS OF THE CENTERFOR RESEARCH ON THE ANTIQUITY OF SOUTHEASTERN EUROPE, UNIVERSITY OF WARSAW[1]

Abstract: Investigations of a new section (XII) of the legionary fortress and late antique city of Novae, initiated in 2011, covered an area believed to contain the barracks of the first cohort. The well preserved remains of wooden barracks raised in the first half of the first century AD for the *legio VIII Augusta* legion were discovered in the course of this exploration. Parts of a single large double barrack and a section of another barrack were cleared. Once the *legio I Italica* was stationed in Novae, these barracks were dismantled in order to raise in their place the so-called Building of the Porticoes, a rather substantial building with a colonnaded central courtyard, basins and cisterns, richly furnished and decorated with wall paintings. A row bathhouse occupied one wing of this structure. From the third century AD, the renovated structure served non-military purposes, as a residence and workshop building at the same time; it contained a glass-making atelier. This building was ultimately destroyed in the second half of the fourth century and a late antique structure of a public nature was built in its place. It functioned through the 440s when it gave way to even later settlement dated to the sixth–seventh (?) centuries AD.

Key words: *legio VIII Augusta*, *legio I Italica*, Novae, wooden barracks, first cohort, House of the Peristyle, row bath, civil settlement, late antique structures

A new section, identified in the excavation system as XII, was opened in Novae in 2011 [Fig. 1]. It covered the area between the east wall of the *principia* and the *Via Sagularis*, which followed the eastern defense wall, and the *Via Principalis* and *Via Quintana* respectively on the north and south [Fig. 2]. The expected architecture in this area encompassed remains of army barracks of the *legio I Italica* as well as late civil architecture. This area had been tested early into the Polish archaeological project in Novae without documenting the finds. A small church was identified in the eastern part of the sector and two monumental column capitals reused as bases in the western part. The poor state of preservation of the church remains apparently caused fieldwork to be discontinued and, as far as the column capitals were concerned, a layer of yellow loess noted

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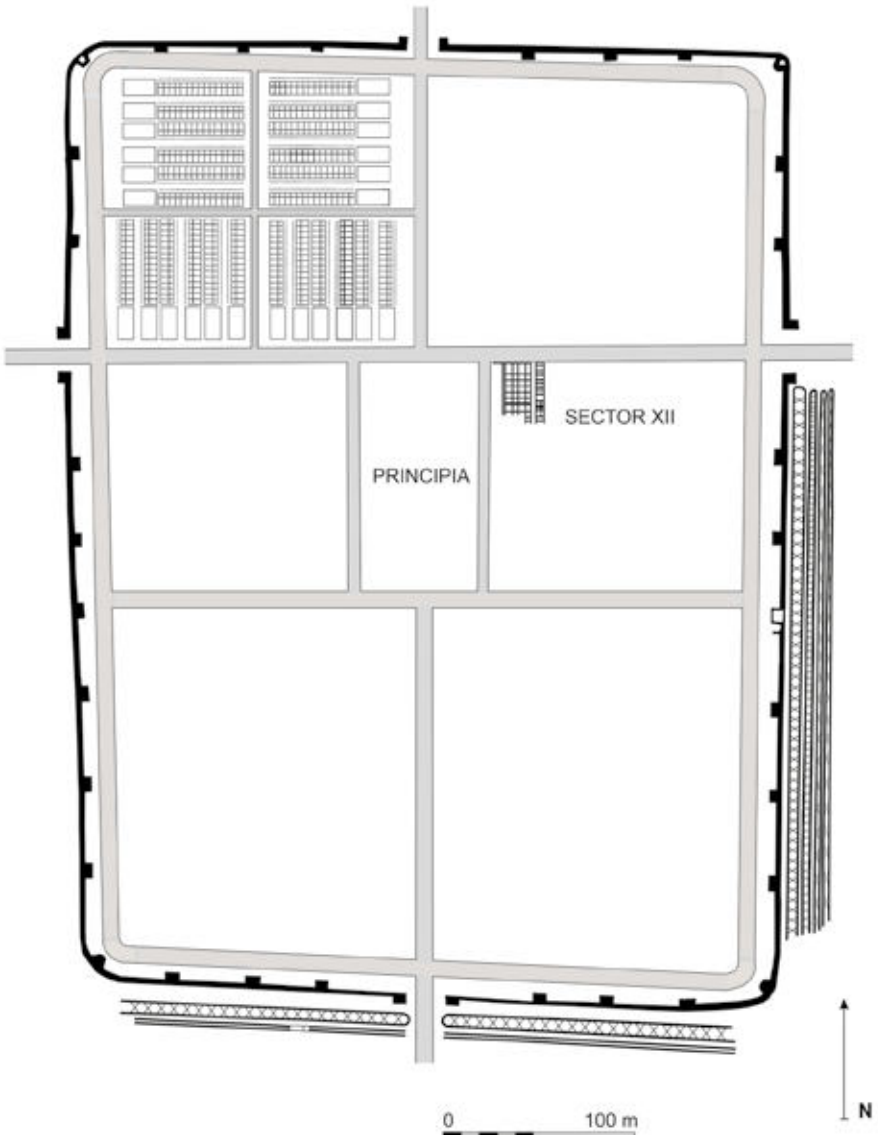

Fig. 1. Novae, Sector XII (P. Dyczek, A. Momot)

approximately 1.50 m below the surface was identified as sterile soil. The presence of sterile soil at such a high elevation did not raise much doubt in view of the fact that the part of the Roman army camp south of the *Via Principalis* lay higher than the *praetentura*, while the main street at this point showed a drop of a couple of meters. The objective of the present work was thus to uncover a section of the street running east of the *principia* in the southwestern part of the sector, along with part of the architecture by the *Via Principalis* accessible beside the modern street and its infrastructure, testing at the same time the stratigraphic positioning of the said two capitals. It was apparent immediately following the first season of work that the legionary architecture lay at much deeper levels, while the presumed culturally sterile loess was in fact a thick leveling layer covering the legionary ruins under the new civil architecture built in this area. The actual sterile level was on an average from 45.60 to 47.00 m a.s.l., reflecting the original ground layout, meaning that, taking into account the current topography, it could be found from 2.50 m to almost 4 m below ground surface.

Fig. 2. Localisation of Sector XII (photo M. Lemke)

Stratigraphic testing revealed five layers overall. The youngest, partly eroded away, consisted of perishable structures made of sun-dried clay and small furnaces of stones. This layer overlay the ruins of late antique architecture, which covered in turn a spacious public building of residential and workshop status. This building, which had been leveled by the thick layer of loess, followed to some extent the layout of earlier architecture linked with the *legio I Italica*. The fifth stratum uncovered at the bottom of the test trenches came as a complete surprise. It consisted of a thick stratum of burnt wood, ashes and burnt lumps of clay with distinct mating impressions. It was quickly evident that the excavation had uncovered a large section of a timber-and-earth structure that could be associated with the legion stationed in Novae from about AD 45 to AD 69, that is, the *legio VIII Augusta*.[2] Remains of this phase were known from other sectors in Novae,[3] but the state of preservation and growing extent of the remains as excavations progressed indicated that we were dealing here with parts of whole and rather well preserved buildings.[4]

The exploration of Sector XII was aimed at discovering the location of the barracks of the first cohort of the *legio I Italica* as earlier research by archaeologists from Adam Mickiewicz University in Poznań had excluded the presence of these barracks west of the *principia*.[5] The discovery of the timber-and-earth buildings under the stone architectural phase evidently associated with the *Italica* legion came as a surprise and needed a new interpretation.

[2] Oldenstein-Pferdehirt 1984, pp. 400–407; cf. Wilkes 2000, p. 110; Sarnowski 2011–2012, pp. 82–83.
[3] Genčeva 2002, pp. 1–20; cf. Sarnowski 1984, pp. 162–163.
[4] Cf. Chorus 2018, pp. 549–551.
[5] Biernacki, Czerner 2013, pp. 7–12.

Timber-and-earth barracks of the *legio VIII Augusta*

First to be tested was a zone 10 m wide alongside the road running east of the *principia*, that is, the western part of Sector XII. Postholes became evident upon removal of a layer of debris consisting mainly of burnt lumps of clay and some lenses of intensive burning that contrasted with the yellow and brown loess (such discoloration of the loess is common in Novae). Some of these postholes were filled with loess, others still preserved fragments of burnt wood [Fig. 3]. The square-shaped holes were originally 30 cm to the side [Fig. 4], the circular ones presented four different diameters: 30, 15, 10 and 5 cm. The layout of the holes was linear, running either lengthwise or crosswise, aligned with the geographical directions. Some, especially those of the largest size, marked out the two ends of strips of loess, which had once clearly constituted the fill of some regular elongated pits [Fig. 5]. Large sections of burnt clay were observed by these pits; they represented the clay pugging of a wattle-and-daub structure [Fig. 6]. This recalled the walls of the timber-built barracks the Bulgarian archaeologists had discovered in the area of the *scamnum tribunorum* in the 1960s.[6] The said wattle-and-daub remains apparently came from a timber-and-earth building. The square and round postholes were lined up, spaced approximately 2.20 m apart and aligned N–S.

Fig. 3. Square post holes (photo P. Dyczek)

[6] Genčeva 2002, fig. 23.

Fig. 4. Round post holes (photo P. Dyczek)

Fig. 5. Barrack walls: post holes left by a wooden structure (photo P. Dyczek)

Fig. 6. Barrack walls: fragments of clay remains (photo P. Dyczek)

The postholes and elongated pits containing loess came together to form a regular pattern of large and small units oriented E–W. The first was 4 m long, which was also the width of the second unit that was 2.6 m long; this corresponded to 14 and 9 Roman feet respectively. The large unit was 16 m^2, the smaller one about 10 m^2. Exceptional in this regular arrangement of postholes was a series of large round postholes situated in a regular line west of the rooms, siding a street dividing Sector XII from the *principia*. They were approximately 2.5 m apart and 1.5 m away from the unit walls. Upon analysis they turned out to be the remains of a wooden portico running along the western side of the said units [Fig. 7]. The arrangement revealed a building layout made up of a large room entered from a portico and communicating through another door with a small interior. Extending the trench to the east by another 10 m revealed more postholes and elongated pits, repeating the already observed arrangement of large and small units of a size identical to the ones discovered in the western part of the excavation. This arrangement was repeated ten times before terminating on a single line of pits of both kinds. The building was evidently fronted by a portico along its western side and ended in a shared wall for all of the units on the east. This kind of layout reflected without doubt a timber-and-earth double *contubernium*, 16 m wide,

Fig. 7. Remains of a wooden portico (photo P. Dyczek)

fronted on the street-side opposite the *principia* by a portico 1.5 m deep [Fig. 8]. The unit pairs corresponded to a vestibule *arma* and living area *papillio.* Interestingly, the units on the western side consisted of a large room with the smaller room in a row with it, whereas at the eastern end the arrangement was the opposite. This kind of layout of a double barrack suggests two *centuriae*, confirming suggestions of a double number of legionaries in the first cohort.[7] The issue should be studied in more detail.

Disturbing the regularity of the arrangement occasionally, especially in the second barrack, are very narrow units or units additionally subdivided with thin partition walls. These seem to be auxiliary rooms or small storerooms that would have been used by the legionaries *en masse.* Exploration of the fill of these units yielded broken querns and cooking pottery as well as additional ovens.

Fig. 8. Plan of the first phase of the wooden barracks (P. Dyczek, B. Wojciechowski)

[7] Cf. Pseudo-Hyginus 3–4; Vegetius 2.6, 2.8, 2.10; von Petrikovits 1975, pp. 119–121; Breeze 1969, pp. 50–53.

Three of the regular units turned out to be different in terms of the finds coming from their fill. A set of 13 bronze medical and pharmaceutical instruments, including fragments of scales and a small spoon, a needle and different kinds of *specillum* or probes came from one of the units[8] [Fig. 9]. Their presence is suggestive of physicians residing in the barracks, although further research is necessary to know whether these medics treated all of the legionaries or just the legionaries of the first cohort. In any case, the discovery is of importance for the study of the organization of the medical service in the Roman army.

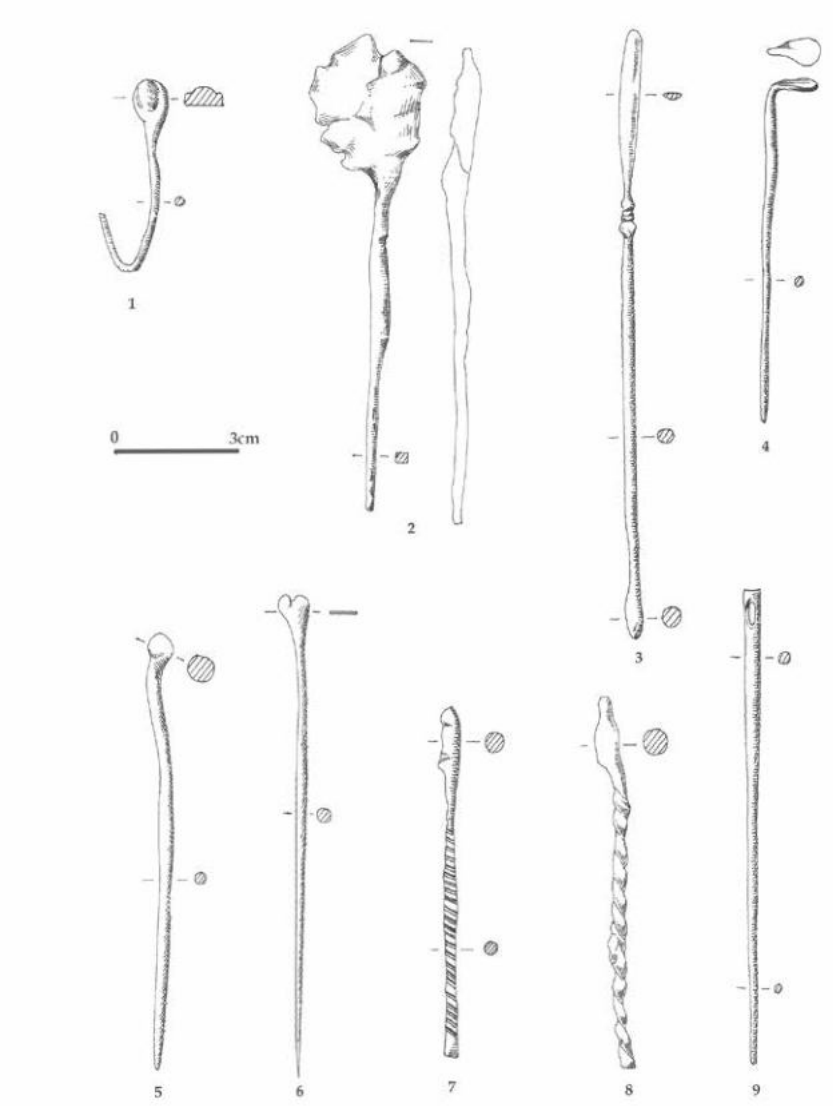

Fig. 9. Medical instruments discovered in the barracks of *legio VIII Augusta* (A. Momot)

[8] Dyczek 2014, pp. 514–516, fig. 3.

A series of large units belonging to the next *contubernium*, which was also oriented N–S, was discovered at a distance of 3.5 m east of the east wall of the barracks. Based on this, it may be said that the wooden barracks were disposed in a row at right angle to the *Via Principalis*. Taken together, the explored area of 45 m by 30 m was occupied by a section of one complete double barrack and a series of units from another one.

The end of the barracks by the main road could not be explored because of the modern road above it, but there is reason to think that this side was lined with a series of small narrow rooms that served as *tabernae* in the later phase when the barracks were built of stone (see below). The arrangement of postholes reveals that they were attached directly to the segment of the barrack interiors first from the north. The distance between the north wall of the double barracks and the side of the *Via Principalis* is just about 5 m, which suggests that the *tabernae* were located here also in the earlier phase, and this means that the house of the centurion should be by the south side of the barracks. This idea needs to be tested through further excavations in the proposed area. It also requires further study to see whether we are dealing with a very long double barrack along the entire length of the *latera pretoria* or two barracks in line and aligned N–S. Currently about half of this area has been explored. At the southern end of the trench, the regular arrangement of postholes and elongated pits was disturbed and the remains suggest that the double barracks were joined by a series of units constructed in an entirely different way than the *contubernia*. A lime floor [Fig. 10] was found, composed of a 4-cm thick bedding of small chunks of broken sandstone poured with a 4-cm thick layer of pure lime containing natural river pebbles and covered with a thin hydraulic mortar layer. Mortar was used also to form a semi-torus, 3.5 cm high, by the walls of the units, the molding passing into a band 3.5 cm wide, thus creating an 8 cm high border. The wattle-and-daub walls of these units were additionally rendered with a thin layer of lime mortar and coated with a thin layer of hydraulic mortar. These units clearly had a different and exceptional function. It is likely that they also marked the end of the building(s) at this end.

Fig. 10. Floor in the wooden barracks (photo P. Dyczek)

A detailed mapping of the several hundred postholes marked by type revealed certain irregularities in this otherwise regular arrangement. These discrepancies did not seem to be due to any special function of the rooms. Stratigraphic and chronological analyses indicated that the changes observed in the plan resulted from a renovation of the barracks after some years of occupation [Fig. 11].

The rebuilding was prompted not by any conflagration or natural disaster, but by investment into improving the living conditions of the legionaries. The second identified building phase consisted of the partition walls being moved without changing the arrangement of the main bearing walls. In effect, the interiors were widened by having the space of an approximate Roman foot added to each one. Radiocarbon dating and a study of diagnostic terra sigillata placed a date on this renovation. The C^{14} dates of samples of the wooden construction material demonstrate three distinct clusters: around the beginning of the first century AD, about AD 40 and about AD 50.[9] The following determinations are forthcoming based on these results. First, some of the material, especially the big beams, had to have been acquired from the local tribes, because the trees from which they were cut had been harvested and were being seasoned even before the arrival of the *legio VIII Augusta* on the Danube. The smaller beams were cut from smaller trees, probably by the legionaries themselves when building the camp. The material used for the renovation that introduced the second building phase was similarly cut by the legionaries as needed.

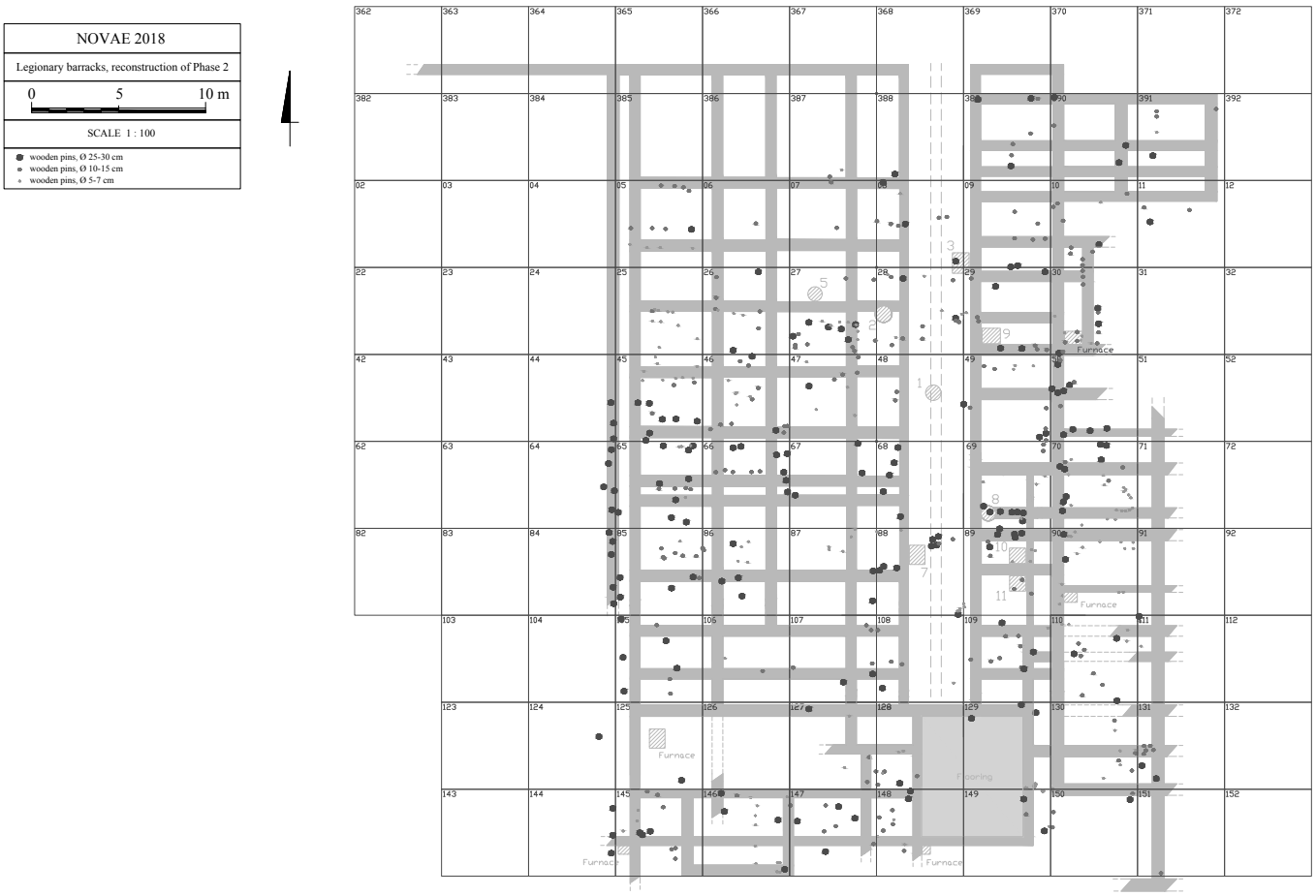

Fig. 11. Plan of the second phase of the wooden barracks (P. Dyczek, B. Wojciechowski)

[9] Dyczek 2018, pp. 551–558.

Dendrological research on the construction wood has also yielded a species identification, making it clear that the wood was not homogeneous and that different parts of the barracks were built of different kinds of wood, not necessarily chosen for its structural properties. The list certainly gives some idea of the natural environment in the Novae area at the time.[10] First is the poplar, both white and black (*Populus alba* L. / *Populus nigra* L.),[11] which grows preferably in a riverine environment, on floodplains and alluvial soil, often also in the form of bushes. In Novae it would have grown in both forms, trees and bushes, on the banks of the Danube; both forms were used in construction, the timber for beams, the small branches for matting in the barrack walls. Poplar is rare around Novae today. Hornbeam, the common variety (*Carpinus betulus* L.) and the Oriental one (*Carpinus orientalis* Mill.) were both used as well, as was beechwood (*Fagus* L.) and birch (*Betula* L.) and, very frequently, oak (*Quercus robur* L.). Common reed (*Phragmites australis* [Cav.] Trin. ex Steud.) from the Danube banks, still growing there today, was also used. Impressions of reeds can be observed on the clay pugging of the barrack walls and burnt pieces are found in the remains of fires where the unwanted material was burnt during the dismantling of the structures.[12] A charred stone pit from the floor levels of one of the rooms was identified as the remains of a nectarine (!) (*Prunus persica* var. *nucipersica* [Suckow] C. Schneider).[13]

An archaeological study of the remains has facilitated a general reconstruction of the barrack building technique and the various details of construction. Floors in both phases were formed of layers of tamped loess that were each relatively thin (approximately 2.5 cm). There were apparently three general levels overall, although the frequency of repairs to the floors in some rooms was even greater. In some places it was the natural ground cover of loess which formed a stable geological substructure. Brown stains observed on the surface of floors from the first phase reflect both use and renovation, during which pieces of wood were actually trampled into the surface. The surface of the second-phase floors bear thin layers of burning and ashes dating to the period when the barracks were dismantled.

The main structural beams were dug and driven into the ground to a depth of about 50–60 cm. The square ones had flat ends, while the round ones were spiked. The timber framework construction (so-called *Lehmflechtwerkwände*) are known chiefly from sites located along the Germanic limes and dated to the 20s AD.[14] First a frame of thick square beams (30–40 cm) was put in. The beam running at the bottom was dug into the ground, resulting in the long rectangular pits that marked the original layout in the excavated field. Vertical posts were placed inside this frame and filled with a wattle-and-daub construction using reeds and small branches sealed with wet loess. In some places, bunches of posts of lesser size replaced the sturdier post, suggesting shortages in the supply of building materials during construction. Walls of this kind were typical of the first phase of the barracks.

The second phase consisted apparently of a renovation of this "loess plaster". The surface was wetted and then scratched with a comb-like tool [Fig. 12] to prepare it for a thin layer (about 2–3 mm) of fine lime mortar containing very fine grey sand from the Danube. The bearing walls of this framework structure were about 40 cm thick and they have two plaster coats preserved on the surfaces: a thicker one of 8 mm and another one of 2 mm, the latter with even finer sand used in its making. This second coat, which does not seem to be present in all of the rooms, may reflect an episode of local repairs. The surface in these cases was also grooved in order to ensure proper adhesion of the next coat.

[10] Dyczek 2019.
[11] Jankowska, Kozakiewicz 2016, pp. 88–89.
[12] Cf. Janowska, Kozakiewicz 2011, pp. 119–125.
[13] Janowska, Kozakiewicz 2013, pp. 103–104.
[14] Rabold, Ronke, Seitz 1988, pp. 26–27; Shirley 2001, pp. 52–53.

Fig. 12. Fragment of a wall "scratched" with a "like-a-comb" tool (photo P. Dyczek)

The partition walls, which were from 20 to 30 cm thick, represented a typical wattle-and-daub technique. The larger posts were 10–15 cm in section and between them were smaller posts about 5 cm in section; the wattle was then daubed with loess. As for the roof, it is quite clear that there were no rooftiles. Instead, thin planks approximately 30 cm wide, discovered in a few places, could have been fixed to the roof beams, but it cannot be said that they overlapped and were the sole protection from rain or that they served as a base for another kind of roof covering. Remains of burned reeds in many places could indicate a roof covered with bundles of reeds.

The roof was gabled. The trusses ran longitudinally, separating the *papillio* and *arma* units. It was not basilical in form, as was the case of the barracks discovered in Vindobona,[15] because the *papillio* and *arma* units in the two parts of the double barrack were not of the same length and the narrow rooms of the western and eastern rows met on axis, precluding a symmetrical supporting of a basilical roof on the bearing walls. Looking at the roof from this perspective, that is, a single gabled roof, also seems to explain why the vestibules and living units were of different length. One possible reason was haste: constructing the more complex form of a basilical roof would have required more building materials and more time. The gabled roof was easier to make and would have been supported on rafters and the outer structural walls. The portico could have had a separate roof supported on the western outer bearing wall of the barrack and the beams that constituted the colonnade. There were no gutters or downspouts. The elongated pits discerned just by the wooden pillars on the outside were formed by water pouring down from the roof for an extended period of time.

Remains of a second barrack were discovered about 3.5 m east of the first one. Currently, the western row of units has been traced in the excavation. Large rooms of the same kind as in the western row of the first barrack were traced. Small postholes were observed aligned with the axis of the open space between the two. Looking at the complex as a whole one might expect a portico here in lieu of an open space, but the issue is not clear. It was definitely not roofed in the second building phase, but if there had been a portico there in the first stage, it was removed for practical reasons, as it made communication between the two barracks difficult.

[15] Mosser *et alii* 2010, vol. II, pp. 458–459, figs. 3–5.

Legionary architects were aware of the double barrack concept, even if is seldom observed in the archaeological record, e.g., the Roman fortresses of *Vetera I* Valkenburg[16] and Bonn[17] from the Augustus/Tiberius period. The Novae layout is nearest to D. P. Davison's type Z,[18] but with some significant differences: the different width of the *papillio* and *arma* units, a portico on just one side and no house of the centurion at the end. Thus, the barrack from Novae must be considered as unique, constituting perhaps a separate type, a notion to be confirmed in the course of further research. The differences should not be seen as surprising in view of the fact that the architectural model of the barracks was taking shape in the early first century AD, depending on specific local topography, building material availability and the actual building conditions in particular fortresses in question. At Novae the chief concern was apparently speed and simplicity of construction. In effect, the Novae barracks are to some extent like the ones in Inchtuthill, for example, where the house(s) of the centurion appeared at one end of a long row of *contubernia* and the two barracks were placed back to back.[19] At the present stage of research, the barracks from Novae can be said to represent a generally approved design, while introducing unique solutions to details of construction.

Other features discovered inside the barracks included ovens [Fig. 13], small post holes and refuse pits. The ovens were built of loess, either square with each side measuring about 1.5 m or circular with a diameter of 1.1 m, that is, 5 and 4 Roman feet respectively. They were located in chosen interiors, both small and large, as well as between the barracks. One of the outside square furnaces had a roof supported on thin poles (confirming the open nature of this space at least for some time). The ovens always stood by a wall or in the corner of a room. In two cases the rooms were of general utility, in others they were part of particular living complexes. This differentiation does not seem to be accidental. Remains of a dome by one of the circular ovens suggested their use as bread ovens, unlike the square ones, which were mainly for cooking.

Fig. 13. Remains of a round oven (photo P. Dyczek)

[16] Reddé *et alii* 2006, pp. 106–109, fig. 85A; Chorus 2015, pp. 47–50.
[17] Davison 1989, p. 18; Burandt 2018, pp. 803–807.
[18] Davison 1989, p. 270.
[19] von Petrikovits 1975, p. 38.

Post holes just about 5 cm in diameter could be observed in the floors of mainly large interiors. These posts holes appeared 1.5 and 2.0 m apart and do not seem to be all contemporary. They were concentrated usually in one part of the large interiors and are suspected of being the remains of beds; those found in small rooms would have been shelves or cupboards, especially as they are always set near to one of the walls.

Refuse pits were discovered throughout the excavated area [Fig. 14], both single-use dumps and recurrent pits dug in successive periods. The archaeological material from the fill of the pits and the relation of the pits with the barrack walls from both phases have led to a chronological differentiation of the pits from the first phase, the second phase and the period when the wooden barracks were torn down and a stone version raised for the legionaries of the *legio I Italica*. To date, 29 pits have been explored. Their shape and depth differed sharply, the biggest pit measuring almost 6 m across and the deepest being almost 3 m deep. Some were used repeatedly, that is, new pits were dug into the old ones. The content was fairly varied, including amphorae of the Zeest 64 and 94 types imported from the East and sherds of Italic and Spanish containers bearing *dipinti*,[20] mentioning raisins of all things [Fig. 15], ceramic lamps of various types [Fig. 16], glass bottles and ribbed cups, a medical probe, bronze fittings [Fig. 17], metal tacks from the sandals of the legionaries, a quern and fragments of stone mortar, including a granite one, which would be either imported or brought along by the legionaries from the *legio VIII Augusta*. Pieces of handmade Thracian pottery were also discovered, the shape repeating that of an urn with a rope motif as decoration but made on the wheel. Sherds of tableware pottery and terra sigillata, consisting mainly of bowls, but also cups and plates and armamentarium [Fig. 18], completed the set. Most of these vessels came from workshops in Italy, a smaller group from Gaul and a very few represented Eastern Sigillata.[21] The latest pits also contained fragments of rooftiles. Interestingly, the pits dating to the dismantling of the wooden barracks that were situated closer to the *Via Principalis* contained more broken amphorae, querns and glass and ceramic vessels for drinking wine.

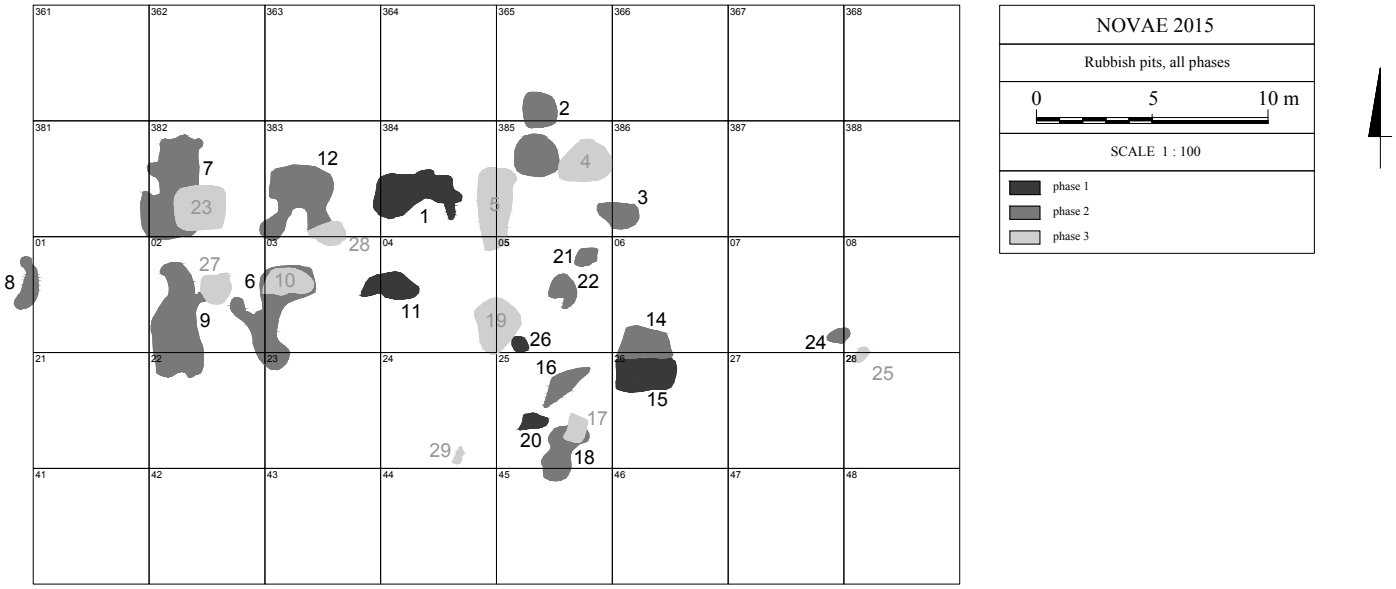

Fig. 14. Rubbish pits (P. Dyczek, B. Wojciechowski)

[20] Dyczek 2016, pp. 563–570.
[21] Dyczek 2018, p. 554.

Fig. 15. Neck of an amphora with a *dipinto* mentioning raisins (photo M. Lemke)

Fig. 16. Lamp with a bull representation on the discus (photo J. Recław)

Fig. 17. Gold-plated appliqué (photo J. Recław)

Fig. 18. Terra sigillata *atramentarium* (photo J. Recław)

The finds from the pits leave no doubt that the wooden barracks were torn down by legionaries of the newly arrived *legio I Italica*. The dismantling was apparently planned and proceeded systematically moving south from the *Via Principalis*, from one roof support to the next to prevent the collapse of the whole building. Once the roof structure was dismantled the bearing and partition walls were torn down. The large posts were either taken out or cut down at floor level, leaving

the wood to rot or be burned [Fig. 19]. Partition walls were pushed down and leveled. The broken wooden elements were either burned on the spot in large bonfires about 90 cm in diameter, located in a line on the long axis of the barracks from north to south, as well as in small fires outside of the dismantling area, out of the way of the dismantling work and to avoid a major fire. The layers of ash in these bonfires show that they were used for a long time and care was taken to let them die out naturally. Separate teams working together proceeded with the dismantling. A larger group was responsible for the roof and then four different teams took down the individual rows of rooms. The partly overlapping and partly separate sequence of layers corresponding to the dismantling suggests this kind of job division with the different teams tearing down the partition walls and removing the debris at a different rate.

Fig. 19. Charred pole remains (photo P. Dyczek)

The ashes and charcoal were thrown into the sizable refuse pits along with the damaged and destroyed objects. The pits were intentional in that they produced the loess that was used to level the ruins of the barracks with a fairly thick layer, up to 50 cm. The walls of the stone building were raised on this layer, which formed a solid base together with the natural loess ground underneath and the 30 to 70 cm dense rubble layer covered with loess. There was no need to dig deep foundations for the walls in this situation.

Tabernae and the western street

The row of small narrow units that lined the building from the *Via Principalis* on the north ran perpendicular to the street. The area could not be explored fully owing to the modern infrastructure in place here. At present it appears that there was one long rectangular unit at right angle to the street and incorporating the north barrack wall. It was about 5 m wide. The structural walls were built in the same casemate technique as the structural walls of the barracks. The interior was divided by wattle walls mounted on pegs, forming spaces from 2 to 2.5 m wide. The arrangement suggests wooden *tabernae*, an idea confirmed by the stone-phase structure, which repeated the same layout and which yielded finds from the floor layers that leave no doubt as to the *taberna* function in the later phase.

A street that was 3.8 m wide ran between the east wall of the *principia* and the portico of the wooden barracks on the west. Its surface was formed of natural loess, but there were V-shaped channels dug in the ground on either side. Their edges were reinforced with rows of stones of a certain size about 15 cm across, the bigger ones constituting the margin, while the slightly smaller ones made the edge of the channel from the street. The margin was 55 cm wide in places, while the second border was no more than 30 cm wide.

So-called House of the Peristyle

The building that the legionaries of the *legio I Italica* constructed in place of the leveled wooden barracks in the northwestern part of the sector featured a courtyard (12.55 × 10.16 m) in the center, surrounded by porticoes approximately 2 m deep with the intercolumnar space being 1.80 m. The size of this courtyard is yet to be established in full (the eastern and southern outer walls have yet to be excavated), but the current dimensions are 48 m by 33 m [Fig. 20]. The columns were mounted on foundations made of large flat slabs of stone, which were not visible under the loess. The fragmentary bases and capitals represent the Tuscan order. The column shafts were about 2 m high, more than 2.50 m with the capitals. There were six columns lining the north and south sides, and seven on the east and west [Fig. 21].

The courtyard appears to have been paved with slabs of Proconnesian (?) marble to judge by the characteristic grey veining; the slabs were from 2 to 2.5 cm thick. The undersides were worked with a punch to make them adhere better to the mortar bedding, which was made of pieces of *tegulae* bonded and smoothed with a grey lime mortar tempered with fine sand and gravel, altogether 10 cm thick. The slab edges were undercut at an angle to allow close fitting at the edges on the surface. Uneven shallow depressions seen on some of the slabs are interpreted as proof of long use.

The walls of the buildings were raised of moderately sized and roughly dressed blocks of sandstone set in courses, their height being about 15 cm. Pieces of rooftiles were inserted wherever necessary to level each course and the wall core was also made of rooftile fragments and small stones poured with lime mortar of at least three kinds: cream-colored with large amounts of quartz

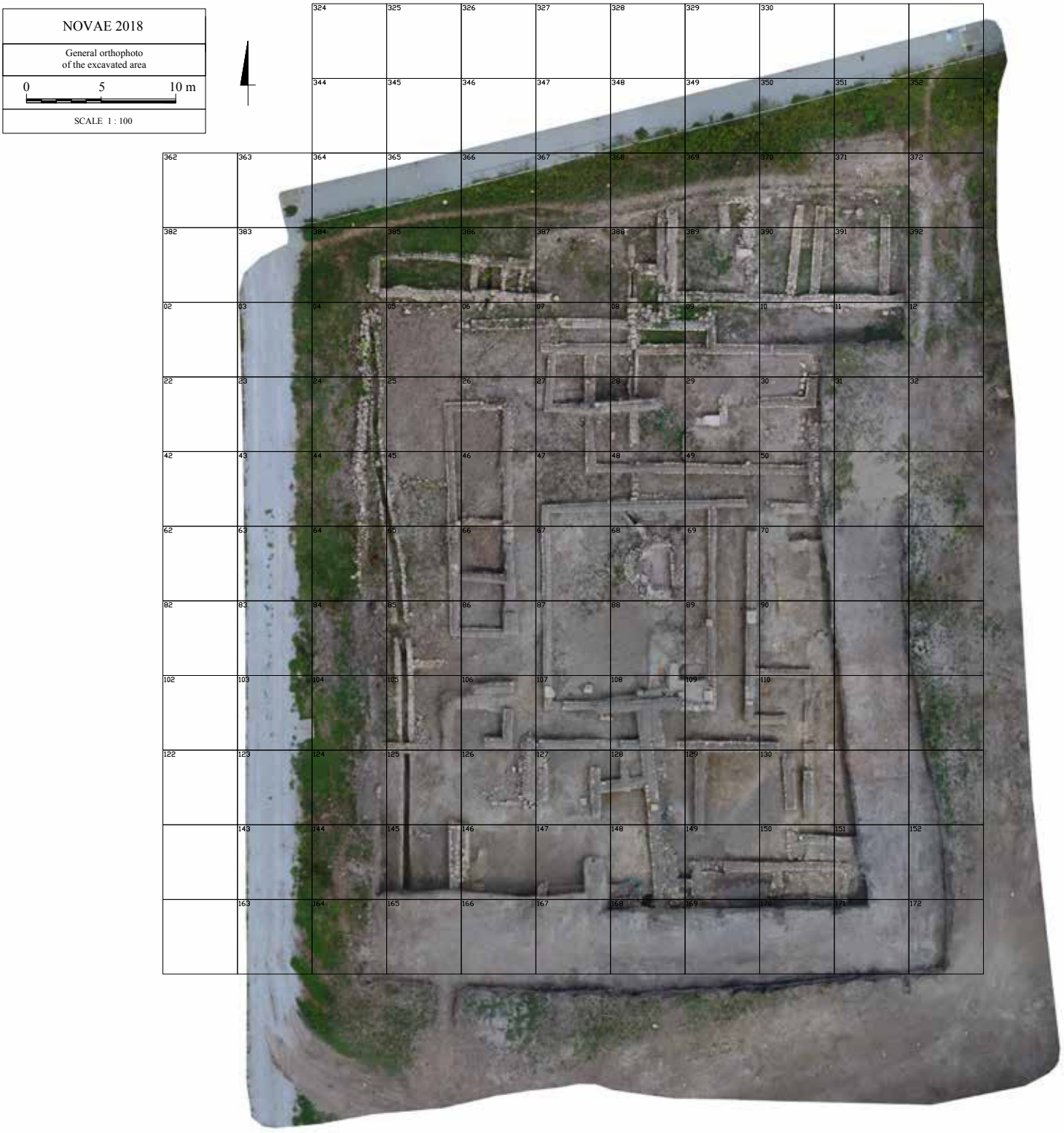

Fig. 20. House of the Peristyle — aerial drone view (M. Lemke)

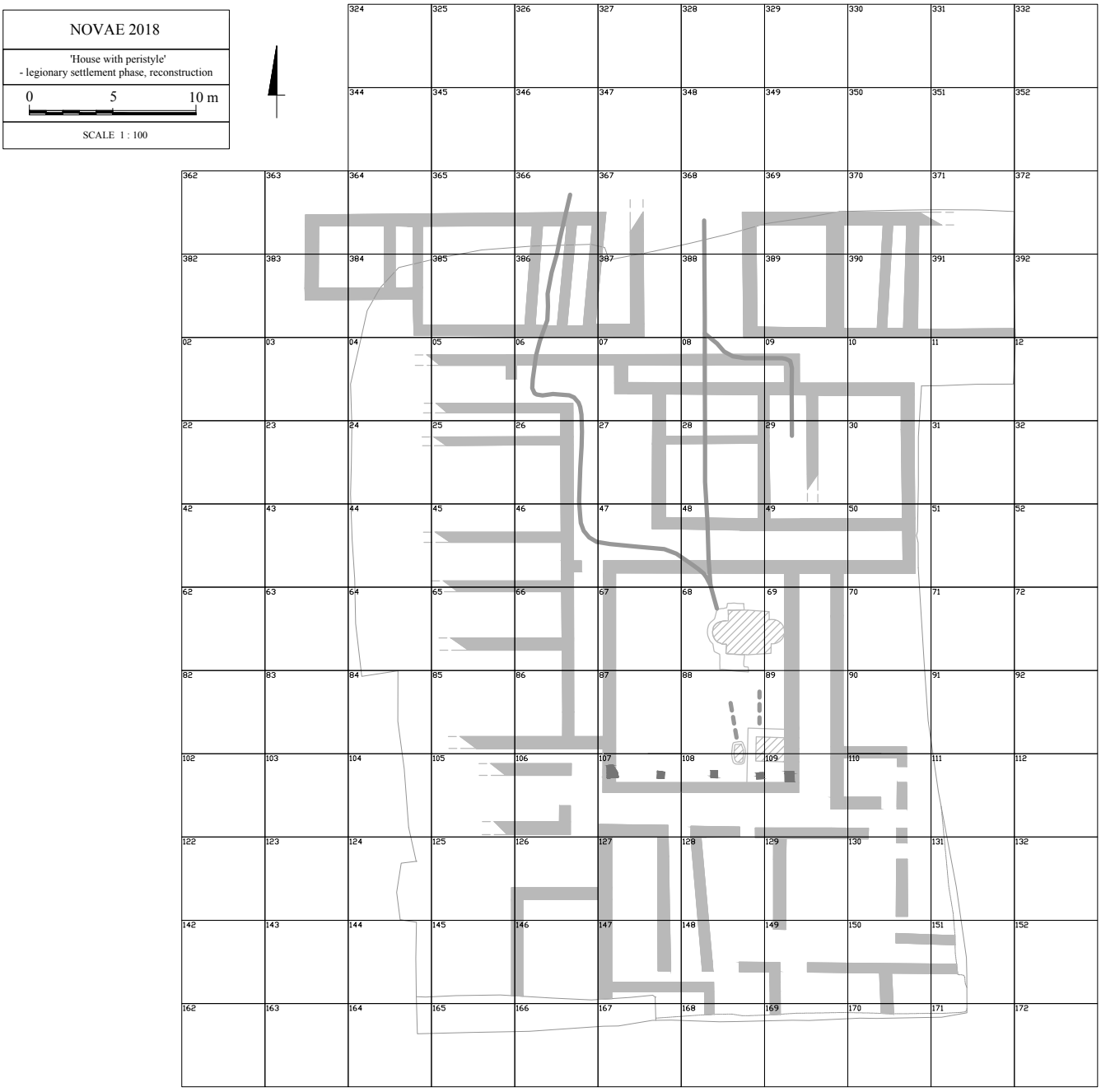

Fig. 21. Plan of the House of the Peristyle (P. Dyczek, B. Wojciechowski)

sand, grayish in color with sand from the banks of the Danube and white with broken building ceramics in it. An earth mortar was also used on occasion.

The width of the structural walls oscillated at 0.60 m, whereas the partition walls without a core are about 40 cm wide. The foundations they stood on were laid in a characteristic free style; they were shallow, just 40 cm deep. For the most part small chunks of stone were spread on the leveled ground in a layer about 10 cm thick and the wall was raised on it without any footing. This kind of foundation was observed in the legionary baths discovered in Sector IV [Fig. 22]. A less frequent form of foundation consisted of two courses of small flat stones set up on end as *opus spicatum* and no footing under the actual wall [Fig. 23]. The reason for choosing this kind of foundation is not entirely clear, but it seems that the dense ground structure formed a sound base for walls set without deep foundations. This manner of building also gave greater elasticity to the whole construction.

The remains of a water cistern 2 m by 3 m in size was discovered in the southeastern corner [Fig. 24]. Its bottom and sides, measuring 20 cm in thickness, were made of broken rooftiles bonded in white mortar. Another cistern was located by the southern portico and aligned with the N–S line of symmetry of the courtyard; it was of oval shape, measuring 1.04 m and 0.58 m across, lined with *tegulae*. *Imbrex* tiles were inserted in the northern edge to drain rainwater from the courtyard. A group of oyster shells [Fig. 25] and broken tableware were discovered next to the cistern.

Fig. 22. Foundations made of small stones (photo P. Dyczek)

Fig. 23. Foundations of the *opus spicatum* type (photo P. Dyczek)

Fig. 24. Cistern constructed of *tegulae* (photo P. Dyczek)

Fig. 25. Oyster shells (P. Dyczek)

A large pool was situated by the eastern portico near the northeastern corner of the courtyard. It terminated in conch-shaped apses at either end on the east and west [Fig. 26]. The pool was regularly filled with rainwater coming down from the roof over the eastern portico. It could have also been supplied through a leaden aqueduct; a broken piece of lead waterpipe was found by the southern edge, destroyed possibly together with the aqueduct when the complex was rebuilt as a civilian structure. The pool walls were constructed of square *besales* bricks, 20 cm to the side, radiating at the corners to form V-shaped joints between them. The mortar was of a hydraulic kind, also lining the inside of the pool and its edges. The outside surfaces were not smoothed with the exception of the upper edge; this indicates that the pool was practically flush with the courtyard pavement.

Fig. 26. Pool with conchs (photo P. Dyczek)

The central part of the pool was a square, about 2.70 m. The two opposite conches were approximately 0.9 m deep and 1.0 m wide; the bottom of the eastern conch was about 0.40 m above the pool floor and was originally paved with stone tiles; imprints of these tiles, 0.18 × 0.18 m in size, were preserved in the mortar. This could have been either the entrance to the pool or a sitting platform. The pool was about one meter deep when constructed. It was renovated at least three times to judge by the coats of hydraulic plaster on its walls. A square outlet (0.1 × 0.1 m in size) was situated just 5 cm above the bottom of the pool in the northwestern corner; this outlet gave into a network of channels present under the courtyard as well as in the northern wing of the structure.

The water drainage system consisted of three different types of channels which all met by the pool. One kind of channel was formed of overlapping *imbrices* laid in a shallow pit, stabilized in place with small fragments of broken bricks and covered with another series of *imbrices*. This channel ran from the southern wing of the building under the eastern portico to the node of channels by the pool. It could have drained water from one of the bath pools. A rare ligature stamp of the *legio I Italica* provided evidence for its construction together with the rest of the stone building [Fig. 27].

Another channel running out from the courtyard was paved with *tegulae* that were freely laid in a shallow depression cut in the loess. The tiles had their edges removed and then were laid horizontally on a thin bedding of mortar; the side walls were constructed subsequently of stones

Fig. 27. Channel made of *imbrices*
(photo P. Dyczek)

15–25 cm high, overlapping onto the *tegulae* and pointed with mortar [Fig. 28]. The space around this construction was filled and a leveling layer raised the ground surface to the planned occupation level. The channel was covered with *tegulae* and the occasional thin flat stone slab. The channel seems to have been repaired at least once, using *tegulae* stamped by the *legio XI Claudia*, placing the *terminus post quem* in the beginning of the second century AD.

Finally, channels were made of small stones bonded in earth on the bottom [Fig. 29] and walls built of two rows of stones, set directly on the stones of the bottom. The channel was covered with thick rectangular stone slabs. The two kinds of channels were similar in size: 40–45 cm deep with the width inside between 20 cm and 30 cm.

The rooms in the wings around the courtyard were all approximately 5 m wide. A bath was added alongside the southern wing of rooms.

The function of this new building is an issue even as the archaeological research continues. It obviously does not repeat the layout of the earlier barracks of the first cohort of the *legio VIII Augusta*. The numismatic data, coupled with the dating of finds related to this structure, place its beginnings right after the arrival in Novae of the *legio I Italica*. Its architectural layout and its location within the legionary fortress suggest a residential building, possibly the house of the centurion[22] or in this case specifically the house of the *primi pili* of the *legio I Italica*. The hypothesis has yet to be confirmed. Its plan as well as particular elements, like the unusual shape of the pool, the inner system of communication, the decoration and foremost the row bath refer directly to civil architecture, calling to mind a Roman house rather than a legionary building. Whenever the nature of the building called for it, military building models were introduced, but well known civil models were applied wherever the approach was sufficiently elastic to allow various architectural designs.

Fig. 28. Channel made of tiles
(photo P. Dyczek)

Fig. 29. Channel made of stone
(photo P. Dyczek)

[22] Cf. Lappé 2018, pp. 512–520.

Each of the wings of the building was composed of a series of small rooms entered from winding corridors. There were many doorways and passages between units. All the chambers seem to have been well lighted by windows paned with lead-mounted glass. The walls of most of the interiors were plastered and painted either white or red. Evidence in the form of repeated plaster coats of a specific nature, evident minor changes in the layout of partition walls, the application of a new building material, that is, the so-called Hotnitza stone, considered in the light of the numismatic finds as well as others, indicates that the building as renovated at least three times: for the first time about AD 80,[23] then in the mid-second century AD and the third time at the turn of the second century or early third century AD. The first renovation was necessitated probably by the damage wrought by an earthquake that also destroyed the Flavian baths in Sector IV. The other two, especially the renovation under the Severan emperors, were linked to a general refurbishment of the buildings in Novae, including the army hospital (*valetudinarium*).[24]

The architectural layout of the different wings of the building, considered in relation to the small finds, tell us something about the different functions of these spaces. The southern wing is perhaps the most characteristic. The units lining the courtyard, 6.60 m deep, were extended to include another row of rooms, which were also apparently about 6 m deep (the exact dimensions will be known once the excavation is completed in this area) and at least 40 m long. The function of this complex is uncontestable: floors of a hydraulic mortar, a *tubulatio* system and a deep hypocaust cellar observed in a break of a *suspensura* slab are typical of a bath complex. The chambers in a row by the courtyard appear to have formed a single modular unit with the bath with interconnected spaces and connecting doorways. These rooms serviced the bath. Two chambers have been partly excavated so far [Fig. 30]: a *frigidarium* featuring the outline of a small pool and

Fig. 30. Remains of a bath (photo P. Dyczek)

[23] Ciołek, Dyczek 2011, p. 14; cf. Georgescu 2015, pp. 7331–7333.
[24] Ciołek, Dyczek 2011, p. 23.

most probably a *tepidarium* with a hypocaust system and *tubulatio* in the walls, made of *tegulae mammatae* set in hydraulic mortar [Fig. 31]. The passage was 10 cm in size. The walls of the bath complex, measuring 55–60 cm in width, were made in the same manner as other walls of the House of the Peristyle; in a later building phase, they were torn down to the level of the floor made of hydraulic mortar. This floor, containing pieces of building ceramics in its structure, formed the upper 15 cm of the *suspensura* platform. Below it are flat *tegula* fragments also poured with hydraulic mortar. The combined thickness of this *suspensura* is thus about 50 cm, but since it has been observed only in a break, which is due to the dismantling work done in the bath, nothing more precise can be said about it. The *suspensura* was repaired once, using a different kind of hydraulic mortar of brown color and without pieces of building ceramics in it. It was poured over a limited area, covering a crack in the slab below it [Fig. 32].

Fig. 31. *Tubulatio* made of *tegulae mammatae* (photo P. Dyczek)

Fig. 32. Repairs to the floor of the bath (photo P. Dyczek)

The bath chambers as well as some of the rooms in the south wing of the building were decorated with paintings, but the general rule were walls painted either white with a carbonate-based paint or red, the ground plaster underneath being white. Of the painted compositions only one is to be reconstructed [Fig. 33]. Starting just above the molding at the edge of the floor was a register about 60 cm high, painted red with white streaks, presumably in imitation of Euboean stone. Above this was a white panel separated from the red with a series of lines. Depicted against the white background were garlands painted in green and red, suspended from a stuccowork molded cornice. The painting technique, characteristic lines and designs, and the form of the cornice find direct parallels in the painted decoration of the Flavian legionary baths in Novae. The same artistic manner can be observed in the execution of the garlands. This demonstrates that the two buildings are contemporary and were decorated by the same group of artists/craftsmen who were most likely not legionaries.

Some of the floors were also made in an extraordinary fashion, employing hydraulic mortar and finished off with a relief molding of the same material at the junction with the painted wall, itself painted red [Fig. 34].

Preliminary testing of the pigments used for painting[25] has demonstrated their natural character. Red was obtained from powdered hematite, green from glauconite/celadonite, the so-called *terra verde*. Other recorded architectural elements included molded wall and door framework elements as well as cornices.

A general idea of the interior decoration of the House of the Peristyle can be formed on the base of the described paintings and architectural decor. Geometrical motifs in the form of mainly red lines of all kinds on a white background predominated, either framing white panels or forming stylized vegetal motifs. Finishing off touches included stucco cornices and simple frames.

Fig. 33. Reconstruction of a fresco from the bath (P. Dyczek, A. Momot)

Fig. 34. A half-roller stucco border above the floor (photo P. Dyczek)

[25] The results of interdisciplinary research will be published in next volume of *Novensia*.

Remains of wall paintings were found also in the eastern wing. None of the compositions there could be reconstructed, but it is clear that if not decorated otherwise, then the walls were painted either white or red. This makes the wing a private residential quarter, a function further corroborated by the character of the small finds, especially the bronze parts of luxury furniture in the form of figurines, relief appliqués, lion paw-shaped feet [Figs. 35 & 36] and the fragment of the bronze handle [Fig. 37]. A perfectly preserved bronze lamp was also found here [Fig. 38].

Fig. 35. Bronze figurines
(photo M. Lemke)

Fig. 36. Bronze figure of an "actor"
(photo M. Lemke)

Fig. 37. Bronze handle with a wild boar's head
(photo J. Recław)

Fig. 38. Bronze lamp
(photo J. Recław)

Remains of a small *nympheum* occupied the southern end of this wing. Fragments of the floor of a small pool made of a thick layer of mortar and what looks like a stone framing of this pool are easily associated with a lead waterpipe running nearby [Fig. 39].

A section 2.5 m long of this aqueduct has been preserved together with the junction. The pipes were made of lead sheet approximately 3 mm thick. Metrical data indicate that it was a so-called "five". The sheets were bent out at the ends and these fasteners hot-pressed together and additionally covered with lime mortar to ensure that the pipe was leak proof [Fig. 40].

Fig. 39. Section of an aqueduct made of lead pipes (photo M. Lemke)

Fig. 40. Detail of a lead pipe (photo P. Dyczek)

The northern wing of the house appears to have been of an official nature. The rooms were the biggest here and their walls were painted white. The assemblage of finds from this area was evidently of a religious character. It included a fragment of a marble statuary group [Fig. 41], presumably representing Dionysus. The marble in this case was the same as the stone used for the "Dionysus and drunken Satyros" group that had been discovered earlier in the army hospital. Only the lower parts of the statue have been preserved, mounted on a solid base. Parts of the representation were originally painted red as attested by the remnants of paint in various parts of the carved elements. Another find from this area of the house was a finely made figurine of a so-called "Flying Eros"[26] [Fig. 42]. The most interesting piece, however, was a fragmentary torso of a youth (preserved height about 30 cm) standing in a contraposto with a raised arm. The artistry of the carving suggests a good workshop, whereas the preserved details lead one to think that it was a very rare representation of Mars[27] [Fig. 43].

Fig. 41. Lower part of a sculpture made of marble (photo J. Recław)

Fig. 42. Figurine of a so-called "flying Eros" (photo J. Recław)

Fig. 43. Torso of a sculpture made of limestone (Mars?) (photo P. Dyczek)

[26] Cf. Kaufmann-Heinimann 1983, p. 32; Fleischer 1967, pp. 79–81.
[27] Cf. Alexandrov 2010, pp. 60–65; Neugebauer 1942, pp. 228–236; Stoll 1992, pp. 154–155.

The western wing appears to have been the domestic part of the complex with a different layout to it, composed of a series of five long interiors oriented E–W. Fragmentary stone querns, storage containers and cooking ware discovered here attest to its household function, further corroborated by a large pithos installed partly into the ground [Fig. 44]. Unlike the rest of the house where the floors were mainly of tamped loess, the western wing units, interpreted as a kitchen, pantry and stores, were fitted with lime mortar floors facilitating cleaning of the area. Middle-sized wooden pegs and a tumble of burnt wooden beams and planks in the entrance to a unit at the southernmost end of the wing attest to the presence of a wooden staircase. This feature indicates that the House of the Peristyle had an upper floor as well.

Regardless of its function, the House of the Peristyle is an exceptional building in almost all regards — in the legionary fortress of Novae as well as among the other known *castra*. It is unique in that it affords the opportunity to study the architecture, identify building materials and reconstruct building techniques. It is tempting, based on the available yet still fragmentary evidence, to interpret it as the house of the centurion. This hypothesis will be corroborated once the full extent of the building has been cleared and studied.

The area west and north of the House of the Peristyle also underwent a transformation in the period contemporary with the functioning of the building. The channels in the street separating the House from the *principia* were rebuilt: the one on the side of the *principia* was only renovated, but the one on the side of the House was made deeper and wider. The stone margins and bottom were poured with a characteristic cream-colored lime mortar. The street surface was hardened with small stones, pieces of building ceramics and lime mortar, both white and cream in color,

Fig. 44. Lower part of a pithos (photo P. Dyczek)

poured in selected places. These must be in part remnants from the construction of the House of the Peristyle. Nonetheless, the effort to level the surface carefully was considerable and for a practical reason as the natural fall of the street in this part of the site was fairly big and a well-made surface ensured good drainage. It was also important because of the two water channels that were placed fairly shallow under the surface [Fig. 45].

The channel running close to the center of the street was made of ceramic pipes laid in a white masonry mortar containing middle-sized gravel, sand from the Danube and lime; this is the same kind of mortar as that used in the walls of the *principia*. The pipes were joined with a fine chalk-based mortar that must have originally had the consistency of butter judging by the fingerprints observed in places where the pipe joinings were smeared with it. The pipes had an opening 10 m across and walls from 2 cm to 3 cm thick. They were laid in a bedding of mortar that was from 10 cm to 15 cm thick depending on the spot to ensure a constant slope.

Interestingly, the mortar bedding was laid on the first street surface, leaving no doubt as to the manner of building. The waterpipe was laid first and only later was the next street level constructed in place. The masonry aqueduct was constructed at the same time. It ran parallel to the ceramic pipe onduit, but was made differently. First a 20-cm thick layer of semi-liquid hydraulic mortar with sherds of building ceramics was poured to create a regulated slope. Then, a square wooden beam (the tree rings can still be discerned) was submerged in it and removed once the mortar had set, forming a channel 12 cm by 12 cm on a bedding 8 cm thick. Flat stones were placed on the still moist edges of this feature and the joints between them were pointed tightly with hydraulic mortar.

The area between the northern edge of the northern wing of the House of the Peristyle and the edge of the *Via Principalis* was also rebuilt thoroughly but without changing its function. As before, a very narrow corridor, measuring 0.8 m in width, was left between the *tabernae* and the House of the Peristyle (previously the northern wall of the wooden barracks). The arrangement of the *tabernae* was not changed substantially. The length remained the same and only the width of particular units was changed minimally with some units being up to 6 m wide and others just 2 m to 3 m. Two latrines were introduced apparently at this time in two narrow chambers opening onto the *Via Principalis*. The two main sewage channels exiting the House of the Peristyle also cleared the waste from these two latrines.[28]

Fig. 45. Two street aqueducts (photo P. Dyczek)

[28] Cf. Schaub 2018, pp. 32–33.

The House of the Peristyle was deserted like the other legionary structures in the Novae fortress most probably in the middle of the third century AD. This event is associated with the proven *damnatio memoriae* of the *legio I Italica*.[29] The layering of archaeological strata inside the structure shows a gradual and natural deterioration of the structure. A thick rubble layer, reaching 80 cm in depth, includes intercalated natural loess as well as collapsing wall plaster, mall stone, rooftiles, etc. However, already in the 270s–280s, the entire complex was rebuilt much like the ruins of the army hospital.[30] The stratigraphic record shows a thin building layer. The new building introduced a new layout, making use of only some of the walls of the House of the Peristyle [Fig. 46]. The central courtyard was retained without any major change. The baths in the southern wing were dismantled creating a large rectangular hall of a private nature. The eastern wing was reduced in size and the northern wing was rebuilt, joining the new units with the old *tabernae*. The western wing was also reduced in size and rebuilt, retaining however at least in part its domestic functions.

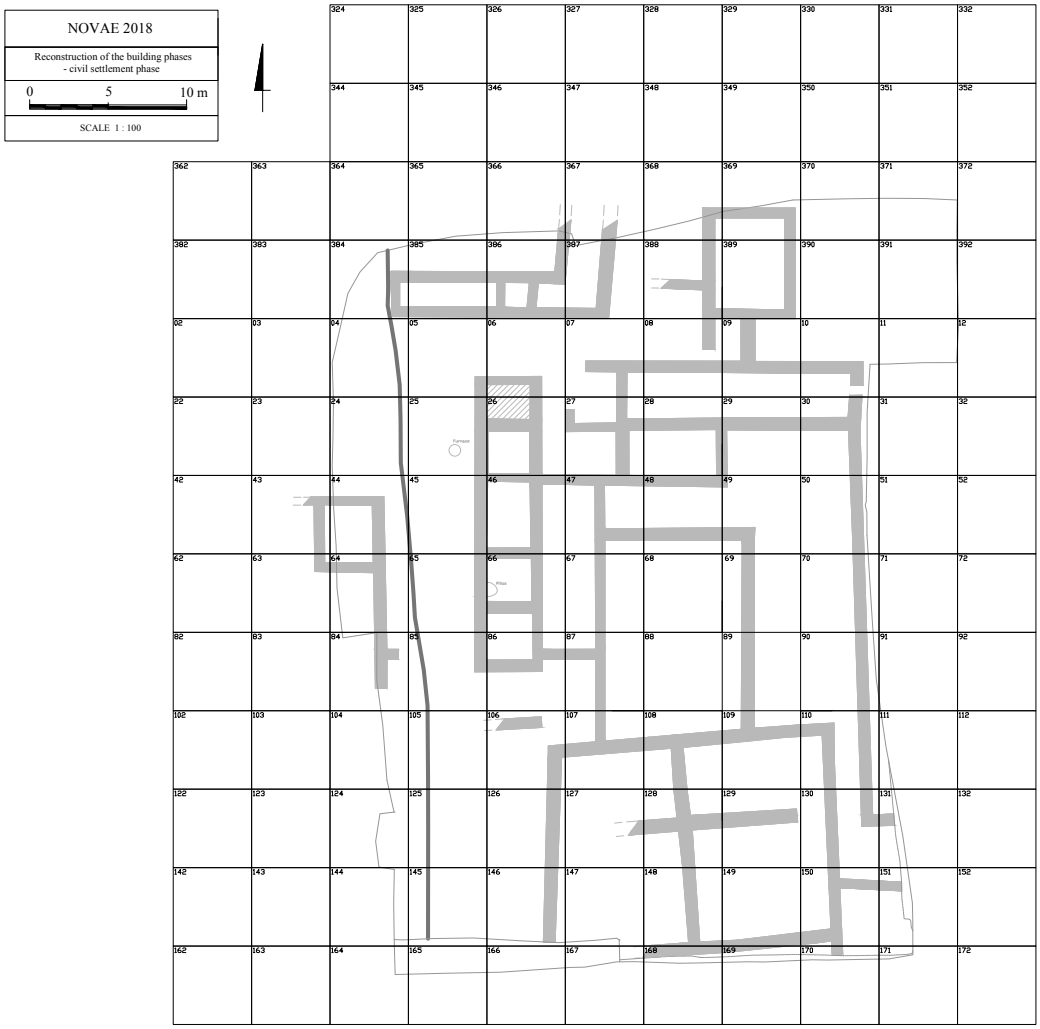

Fig. 46. Plan of the civil phase (P. Dyczek, B. Wojciechowski)

[29] Dyczek, Kolendo 2017, pp. 461–465.
[30] Dyczek 1988, pp. 17–19.

The enlarged area between the new version of the former western wing of the House of the Peristyle and the street on the western side was now filled with new crafts workshops as well as two glass-making furnaces set up out in the open space, one domed and one a pit furnace [Fig. 47]. A similar situation was recorded earlier in Sector IV in the same period[31] and there are other parallels.

The same deviation of 10 degrees can be seen in the orientation of the new buildings in Sector XII as earlier in Sector IV. It testifies to a change of the inner division of the old fortress of Novae and an adjustment of the street network to the new civil architecture. The building technique is also similar. The walls were raised of stones left from the tearing down of legionary structures, which also include spolia. The walls are an average 60 cm thick and are bonded in earth. Characteristic buttresses stabilizing some of the walls are also present.

Fig. 47. Dome furnace for melting glass (photo P. Dyczek)

[31] Dyczek 1999, pp. 99–104.

The pit furnace mentioned above was constructed on a stone foundation that was 1.60 m by 1.40 m. The furnace itself was made of broken *tegulae* with the *I Italica* legionary stamp and ordinary unstamped building bricks bonded in white lime mortar [Fig. 48]. Covering the upper part were congealed chunks of light green glass. Strewn around the furnace were fragments of glass, ashes, lumps of charcoal and glass slag. The small domed furnace was 0.90 m in diameter. The bottom part, 0.80 cm deep and below ground surface, was lined with *tegulae* bearing the *I Italica* stamp. Large chunks of glass slag and particles of sulphur were scattered around it.

A small pool or cistern with outlet joining the old sewage channel of the House of the Peristyle was located in the western wing of the building near the domed furnace [Fig. 49].

The archaeological assemblage from the structure, including numerous coins, lamp fragments, cooking and storage vessels date the building to the second half of the fourth century AD. There is no evident reason for why it was deserted in the end.[32]

To date the destruction of the second half of the fourth century was associated with barbarian raids based on an interpretation of the finds. Data from Sector XII have broadened this interpretation. Evidence of a strong earthquake has been recorded, dated by well stratified coins to the 370s–380s. The barbarian raid may have been followed shortly by a natural cataclysm.[33] It may be the reason why large stretches of the ancient town outside of the strict center (Sector XII) were never rebuilt.

Fig. 48. Fragments of a glass melting furnace (photo P. Dyczek)

Fig. 49. Late antique channel (photo P. Dyczek)

[32] Dyczek 2017, pp. 683–691.
[33] Guidoboni, Comastri, Traina 1994, pp. 677–682.

The large quantities of coins point to intensive settlement, indicating indirectly the efficient working of the glass workshop or glassworks. A hoard of 48 perfectly preserved coins was discovered under the floor in the southern, private wing of the building. Most of the coins represented autonomous issues [Fig. 50] from the time of Septimius Severus (the largest number) through Gordian III. This set included one sestertius of Hadrian (!). The coins were fused together, indicating that they had originally been placed in a pouch. The same layer also yielded a large chunk of gold.

The street running on the western side remained in use throughout this period. Its surface was changed, covering it with a 40-cm thick layer of loess. This helped to bring the street level to the new occupation level of the building.

In other parts of Novae the excavators have noted a settlement hiatus from the end of the fourth through the sixth century.[34] In Sector XII the situation appears to have been different. The civil building was no longer operational, presumably from the time of the second raid of the Goths, but it was soon replaced with a new monumental structure [Fig. 51]. It occupied the entire area of the sector, using the old walls at discretion. Wherever the new design (function) required new walls to be built, they were founded very deep, reaching with the foundation without a footing all the way down to the debris of the barracks of the *legio VIII Augusta*. The idea presumably was to create a sound base for walls that were 60–70 cm thick (50 cm for the partition walls) and were constructed of middle-sized stones and building ceramics fragments bonded in an earth mortar. The foundation courses were simply more irregular in their bondwork. The courses were laid with care, some 15–20 cm in height. Spolia were also used as building material, as well as huge slabs of sandstone coming most likely from the old pavements of the *principia* as well as probably the *Via Principalis*.

Fig. 50. Hoard of autonomous coins (photo J. Recław)

[34] Ciołek, Dyczek 2011, pp. 25–27.

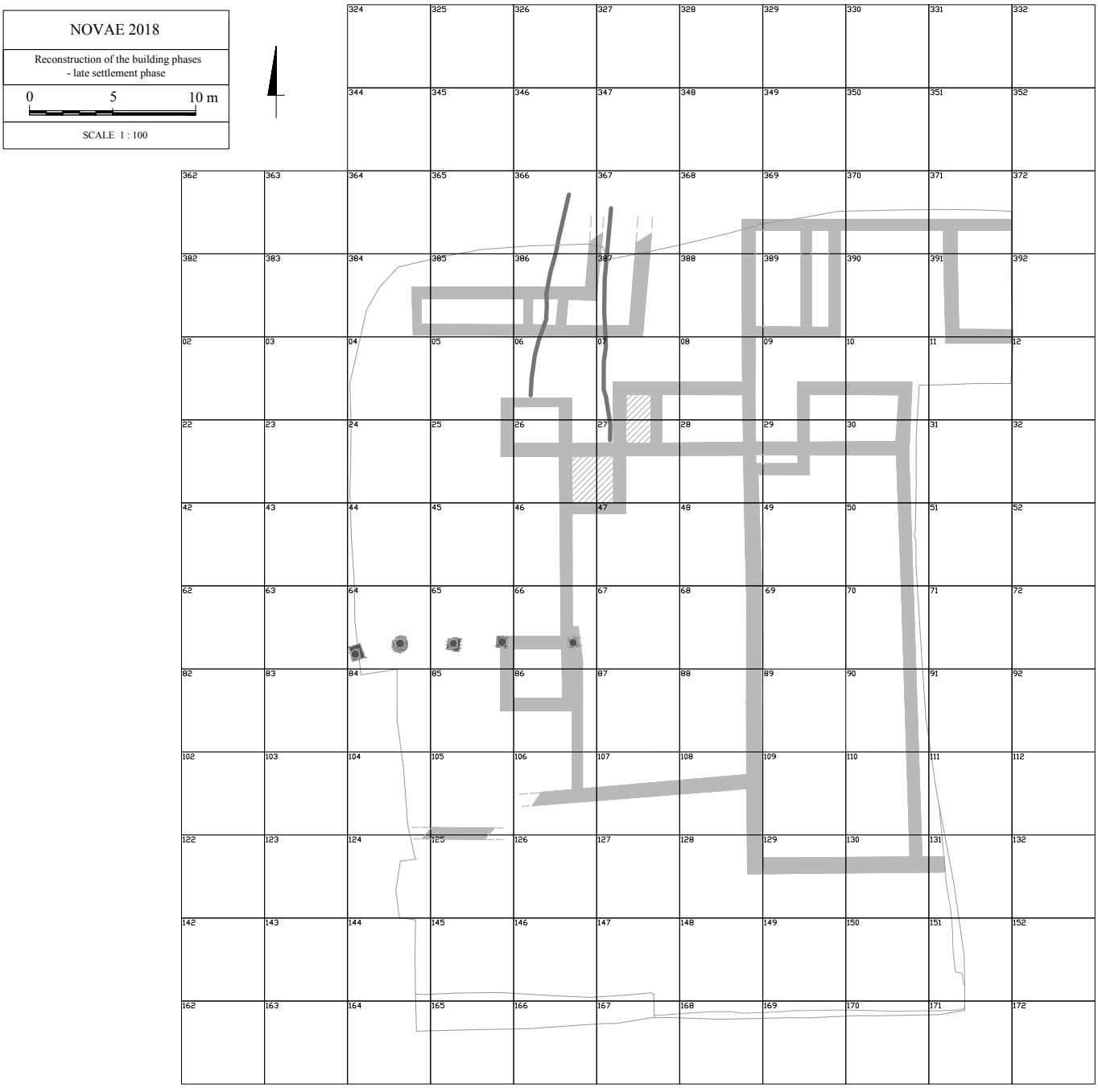

Fig. 51. Plan of the late antique civil phase (P. Dyczek, B. Wojciechowski)

The portico was also a mark of the monumental nature of this building. The only surviving architectural element are the bases, made of reused upturned capitals originating in all likelihood from the *principia* [Fig. 52]. The foundations for each one were dug very deep. Five bases have been excavated, forming a portico running E–W. The pedestals under the bases were nearly cubic in shape, the sides measuring from 46 to 58 cm, whereas the diameter of the columns would have been approximately 38 cm. The intercolumnar space was 3.20 m [Fig. 53]. Preserved traces of dressing and straightening of the side walls of the pedestals indicates that they were perceived primarily as plinths under the bases; they do not seem to have risen more than about 10 cm above the ground level.

Fig. 52. Monumental portico from the late antique phase (photo P. Dyczek)

Fig. 53. Base of a monumental portico (photo P. Dyczek)

Three floor layers were recorded. The first was a thin layer of white mortar, the second was tamped loess and the third, the soundest of the lot, had a layer of white mortar about 2.5 cm thick poured over a bedding of sherds of storage containers.

The late antique building, which had sustained severe damages, was composed of three wings encircling a small courtyard from the north, east and south. The western side was open presumably onto a road running by the complex on the west. The surface of this street in this phase was strengthened by a new layer of loess mixed with large fragments of building ceramics. The said portico lined the southern wing of the structure. Judging by the small finds, the chambers here were of an official nature. The archaeological layer here yielded a complete amphora of the LR 4 / Almagro 54 / Dyczek 30 type,[35] an import from the Gaza region [Fig. 54], fragments of other late antique amphoras, LR 1 being the predominant type,[36] a gem with the depiction of a lion [Fig. 55],[37] fragments of bronze candelabra and a small balance.

Fig. 54. Gaza amphorae (photo P. Dyczek)

Fig. 55. Gem with the representation of a lion (photo J. Recław)

[35] Bonifay, Villedieu 1989, pp. 17–46; Majcherek 1995, pp. 163–178; Reynolds 1995, pp. 71–83; Riley 1979, pp. 91–97.

[36] Dyczek 2017, pp. 683–691.

[37] Sena Chiesa 1978, pp. 116–117, pls. 131 & 133; Sagiv 2018, pp. 66–67, fig. 17.

The walls were plastered white and limewashed. A few fragments preserved attestations of graffiti: chaotic lines, a representation of a boar [Fig. 56] and names/functions (?): Antoninu(s), Nauticus, Mutinus.

The floors in this building were of tamped loess except for the southern wing where the chambers were fitted with square ceramic tiles (28 × 28 × 4 cm) with crossing lines impressed on their surface.

A perfectly preserved incense burner of bronze[38] was discovered in the northern part of the eastern wing [Fig. 57]; it was a product of bronze workshops in Sardes.[39] Another exceptional find was a gold earring in the shape of a cross[40] [Fig. 58].

Fig. 56. Graffito with a representation of a wild boar (photo J. Recław)

Fig. 58. Golden cross-shaped earring (photo J. Recław)

Fig. 57. Bronze censer (photo P. Dyczek)

[38] Minchev 2006, p. 193, fig. 276.
[39] Waldbaum 1983, pp. 577–581, pl. 27.
[40] Khairedinova 2012, pp. 417–431.

A fragmentary water installation, composed of a water channel and a small pool, was uncovered in the northern wing. The channel (?) was inclined down southward, that is, opposite to the natural slope of the ground in this area, was dug into the ceiling of the earlier civil structure. The bottom paved with semicircular rooftiles typical of the late architecture in Novae (37 × 40 × 3 cm) was made of white lime mortar with fine sand, which was also used for the pointing of the joints. The edge was made of small bricks (32 × 13 × 4 cm) bonded with the same kind of mortar. The channel was covered with flat slabs of sandstone set in mortar, which also tightly filled the joints. In effect, the size of the channel was 16 cm square. It was aligned N–S and led to a small basin with walls constructed of bricks of the same size as above.

The basin floor was paved with ceramic tiles of identical size (28 × 28 × 4 cm) as those in the southern wing of the building. The mortar in the bedding was also identical to that used to construct the aqueduct. The reconstructed size of the basin was 2.40 × 2.40 m. Another smaller, almost completely destroyed basin was attached to the northeastern corner of the pool. It cannot be determined whether it was also supplied with water from the channel or was a cistern in itself. The function of these water installations remains unexplained.

As said above, the currently known layout suggests the main facade of the structure from the west. Two fragments of a base with a Greek inscription were found here on the occupational level of the courtyard [Fig. 59]. It reads:

> [- - -] and to the [- - -] to the glorious city of the Novesians and to the First Italic Legion in thanksgiving (and) because of the memory and [- - -] (erected) the statue [- - -] having a noble attire [- - -] of the army and in cuirasses [- - -] Bassos, first citizen of the colony of Alexandrians, and Flavios [- - -], first citizen of Ilion, [- - -] the God of Heavens who saved [- - -] near Hellespontos.[41]

Fig. 59. Greek inscription mentioning the name of Novae (photo P. Dyczek)

[41] Łajtar 2013, pp. 97–111; Dyczek 2015, pp. 169–177.

It is the first inscription from Novae to mention the name of the town. It is important for the history of the site that the inscription, which is dated to the first half of the fifth century, precedes the raiding Huns. It shows that Novae was a thriving municipal center at the time. The function of the said structure cannot be ascertained, but the monumental nature of the building, the rich furnishings and the inscription (assuming it came from the structure instead of being dragged here from the ruins of the *principia*) indicate an official building of public use, possibly the city council.

Sector XII has also yielded the first archaeological remains associated with the late antique tribal migrations of the seventh–eighth centuries AD. These include two furnaces [Fig. 60] and a large building made of dried mud brick [Fig. 61]. Its length from north to south is 8.80 m, its width at least 7.10 m. The building was originally a square structure measuring 8.80 × 8.80 m. The outer walls, which were 70 cm thick, were based in part on the walls of the late civil structure and partly raised of dried mud brick (7–8 cm thick, longest preserved side 25 cm) tempered with straw chaff. Partition walls of 40 cm width were made in a different way. Wattle-and-daub walls were fixed to circular poles with a diameter of 20 cm, the plaited surfaces being daubed with a layer of loess. The interior walls were renovated six times with successive layers of loess. The floor, also renovated a number of times, was made of tamped loess.

A central corridor cut across the building from north to south. Small units lined this corridor on either side. In the northwestern corner of one of these units was a furnace measuring 2.30 m by 1.5 m, oriented N–S. It was made of dried mud brick.

The furnace consisted of a *praefurnium* on the south, 0.85 m long, and a domed part made of stones bonded in clay, measuring 1.5 m in diameter. The function of the other units has yet to be determined. The entrance to the building was located most probably from the south and was preceded by a wooden porch that was 3.10 m deep.

Fig. 60. Late antique dome furnace (photo P. Dyczek)

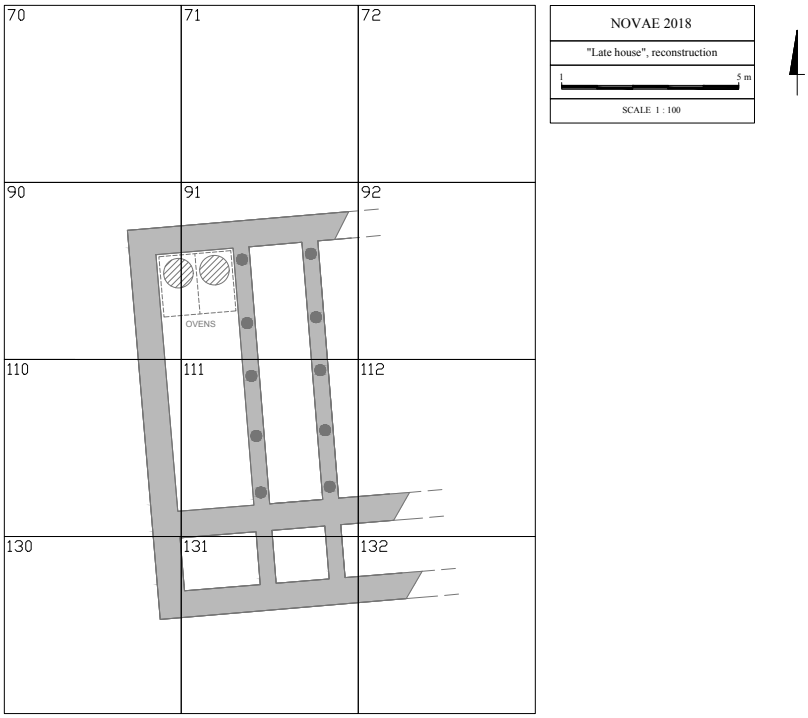

Fig. 61. Plan of the dried-brick house (P. Dyczek, B. Wojciechowski)

The ground around the structure was paved with a dense pattern of middle-sized flat stones and upturned *tegulae* on a loess bedding. Owing to the eroded ground north of the structure, it cannot be certain whether there was another building in this direction. The lower parts of another domed furnace were noted here. A third furnace, and the best preserved one of the lot, could not be linked to any more permanent structure. All three furnaces were of the same type and similar size. They may have served some domestic purpose, baking bread, for example, rather than being part of a craft workshop.

Dating these late structures has met obstacles. Only a *terminus post quem* in the end of the sixth century has been established, but further excavations should reveal more data and determine the chronological range of the structure, connecting it with specific historical events. The investigation of earlier periods in Sector XII needs to be continued as well to explain many general issues that will all come down to either a confirmation or rejection of the following four hypotheses:

a) In the case of the wooden barracks of the *legio VIII Augusta*, the plan of the barracks as a whole, meaning was the *scamnum* occupied by a double set of long barracks or by two shorter barracks aligned in one row, and the location of the house(s) of the centurion(s). The theory about the doubled number of legionaries in the first cohort will be studied at least for Novae. Once the current program is completed, it will be possible to calculate this number.

b) For the second phase of the fortress, the function of the so-called House of the Peristyle, which could be a centurion's house, in this specific situation the field residence of the *primus pilus*.

c) For the civil building, testing the idea that it was a dwelling and workshop area similar to the Building of the Porticoes (former Sector IV). A glass workshop is putatively located in this area.

d) Finally, the nature of the late architecture (including the sixth–seventh centuries), which is unique in Novae and should be connected with the tribes (but which?) that occupied Novae at the time.

Of equal importance is the study of several detailed issues, because the buildings investigated in Sector XII are one of a kind in this part of the Danubian limes, at the same time bringing much new data for limes archaeology as a whole.

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