Radosław Karasiewicz-Szczypiorski

The Roman Army and the Walls of Chersonesos

Fortifications of Chersonesos from the foundation of the town to the turn of the eras

Defensive walls, analogously to a cemetery, are extremely important features accompanying an ancient town. In the case of Chersonesos, the earliest fortifications should have originated not later than the first regular plots and the network of streets in the north-eastern part of the town. A regular spatial organization of the town is dated to the 2nd quarter of the 4th c. BC. A later extension of the town to the east must have inevitably been related to a demolition of at least part of original fortifications, which found themselves within the area which was to be built-up. This extension, which was the largest one in the history of Chersonesos, in all probability took place in the 4th quarter of the 4th c. BC (Bujskih, Zolotarëv 2001: 113). The last significant change of the extent of the town before the Roman Period is related to the construction of the citadel. Thanks to it, the south-eastern part of the fortifications was strengthened. The mentioned part of the walls protected the so-called "port quarter," which was situated near the mouth of Quarantine Ravine (Karantinnaâ Balka) reaching the bay of the same name (Quarantine Bay – Karantinnaâ Buhta). The location of this section of Chersonesean defences in a natural depression area facilitated access for potential aggressors (Bert'e-Delagard" 1907: 124–125). As the citadel was built, this problem was solved. Furthermore, a space came into existence which was necessary to accommodate the garrison called into being at that time (IOSPE I² 418; cf. Zubar', Antonova 2001: 50).

The chronology of the extension of the town's territory is based on finds of tombstones from the 4th–3rd c. BC, which were secondarily used within the so-called core of Turret XVII (Strželeckij 1969: 11–17; Antonova 1994: 31; 1996: 119).[1] A precise date of construction of the citadel is unknown. Hitherto proposals of local archaeologists oscillate between the mid-3rd c. BC (Antonova 1997: 7) and the early 2nd c. BC (Strželeckij 1969: 17). In 1999, Antonova maintained that the extension of the town's fortifications should be dated to 230–220 BC, that is, to the time of rebuilding and strengthening of defensive walls of Kerkinitis and Kalos Limen in the face of the Scythian threat.[2] Recent papers on the subject propose a date between the mid-3rd and the end of the 3rd c. BC (Zubar', Antonova 2001: 49–50).

Regardless of doubts concerning the chronology of subsequent stages of construction and extension of the walls of Chersonesos, archaeological investigations confirm that after the construction of the citadel subsequent defensive walls were built along the same line for several centuries. The only significant change in the all Roman period was the construction of an external wall (*proteichisma* – προτείχισμα) at the beginning of our era. A precise chronology and the original extent of this additional line of fortifications still provoke doubts (see p. 92–93 and the Appendix).

Research on the town's walls has lasted since the beginning of systematic archaeological excavations, that is, since the 1880s. A significant input into the discovery of the fortifications was brought by K. Koscûško-Valûžinič. He was the first director of the local "antiquities depot" in Chersonesos and worked upon the order of the Imperial Archaeological Commission. Results of research and incidental discoveries which were made on the town's walls at the turn of the 19th and 20th c. were systemised by A. Berthier de Lagarde, an engineer serving in the Russian army. He proposed a system of numeration of curtains and turrets which is still in use in modern research and documentation (Bert'e-Delagard" 1907). It is also used for the needs of this paper (**Fig. 1**).

It should also be mentioned that among numerous archaeologists and architects who contributed to broadening of our knowledge base on the fortifications of Chersonesos, a special attention must be paid to the works of K. Grinevič. He gathered and put in order results of some dozen years of research on the town's walls (Grinevič 1926; 1927; 1959).

[1] In her publication from 1994, Antonova gives information on Hellenistic tombstones in other parts of the citadel's fortifications as well, namely in Turrets XVI and XVIII and in Curtains 19–21. In my opinion, this isolated piece of information raises numerous doubts, especially concerning the mentioned turrets. One of these (XVI) is of earlier origin, while the other (XVIII) is in all probability much later. In the latter case, it may perhaps be a typesetting error and it probably concerns Turret XVII'. This turret seems to have been constructed together with the earliest phase of Curtain 20, that is at the time of the construction of the citadel.

[2] I.A. Antonova, personal communication, July 1999.

The Romans in the town and the construction of the defensive walls

It is not known for sure which events initiated the process of changes and became the actual beginning of the Roman Period in Chersonesos. It does not seem probable that the introduction of the new count of time by the town in 24 BC could be considered as such a caesura. We do not know to what event this change of the local era was related.

The appearance of the Roman troops in the region was no question a turning point in contacts with *Imperium Romanum*. For Chesonesos, it was perhaps the Roman military intervention on the Bosporus in AD 45–49 (Tac. *Ann*. 12. 17–21; cf. Zubar' 1998: 32–33). The actual beginning of changes may have also been marked by a short-term presence of the Moesian army corps in Chersonesos and its vicinity. The corps is thought to be related to the person of Tiberius Plautius Silvanus (CIL XIV 3608 = ILS 986). A military intervention may have taken place in AD 62 or slightly thereafter. Not only the chronology, but even the very fact of the presence of the Roman troops in that period is a matter of debate among scientists (Zubar' 1988: 22; 1994: 26–29; 1998: 43; 2003: 14; contra Sarnowski 2006a; 2006b; 2006c). It seems that significant arguments for the appearance of the first Roman detachments in Chersonesos at that time are provided by a new assessment of a number of finds – parts of military gear and horse harness. It points out that a considerable part of the assemblage forms a chronologically compact horizon. It is perhaps a trace of a short-term presence (just about the mid-1st c. AD) of a Roman corps, which was mainly composed of cavalry (Gawroński, Karasiewicz-Szczypiorski, Modzelewski 2014).

Later presence of the Roman garrison in Chersonesos does not raise so many doubts. In all probability, it was also short-term in its nature. During the rule of Trajan (or Antoninus Pius), a *vexillatio* of the 5th Macedonian Legion appeared in the citadel and possibly in the rural territory near the town (Antonova, Kostromičëv 2000: 217; Sarnowski 2005). The presence of Roman soldiers around the town in this time isn't sure (Sarnovskij, Kovalevskaâ 2004). Traces of stationing of Roman soldiers, which perhaps come from the early 2nd c. AD, were also found in the course of excavations in the fort in Balaklava (Karasiewicz-Szczypiorski, Savelâ 2012: 174, 180, figs. 1:4–6, 3, 4, 5; 2013: 123).

The early period of contacts with Rome lasted until about AD 138. At that time, the so-called "second eleutheria" was perhaps declared, which meant that Chersonesos was formally recognised as a free town by the Empire. As a matter of fact, this act was related to the reintroduction of the Roman garrison; this, however, may have taken place slightly thereafter. The chronology of the further presence of the Roman troops in the south-western part of Crimea has been worked out in detail, i.a., thanks to excavations of the Temple of Jupiter Dolichenus in Balaklava, a list of stamps on roofing tiles and physicochemical analyses of building pottery from places of deployment of Roman garrisons in Crimea (Sarnowski, Savelja 2000; Sarnowski 2005).

We know that at least at a few sites, such as: Balaklava-Kadykovka, Charax in Cape Ay-Todor, Kazatskaya Hill, Kavkaz Bair and perhaps at Tschatyrdag near Alushta, Roman detachments constructed fortifications on the places which were previously completely not inhabited or which were perhaps populated but had no fortifications (Balaklava?) (Karasiewicz-Szczypiorski 2011; 2012; Karasiewicz-Szczypiorski, Savelâ 2012; 2013; Novičenkov, Novičenkova 2002; Sarnowski, Savelja, Karasiewicz-Szczypiorski 2002; 2009). Forts and watch towers were used for a short period of time, and after they had been abandoned, the local population did not settle there at all, or settled there much later. Such a peculiarity of the Roman presence and building activity facilitates investigations and makes it easier to relate discovered fortifications to the Romans.

It is much more difficult to prove a direct participation of the Roman army in the construction and modernisation of the fortifications of Chersonesos in the first centuries of our era. Building inscriptions should be a useful source in clarifying such doubts. However, we know only one Latin inscription belonging to this category from Chersonesos. It mentions the construction of a *schola principalium* from means of the centurion who commanded the garrison (Vinogradov, Zubar', Antonova 1999). This inscription is dated to AD 250 and it was found in the territory of the citadel. We know two fragments of Greek inscriptions from other part of Chersonesos. These refer to construction or repair of defensive walls. One fragment informs us about a turret, although we do not know who and from what financial means had it erected or repaired (IOSPE I² 439). Another fragment of an inscription says perhaps about a construction of a wall. It was found somewhere near the southern part of the fortifications and it may have come from one of the neighbouring curtains, e.g., Curtain 13 (Solomonik 1973: no. 134). On the other hand, three different fragments of epigraphical texts inform us that citizens of Chersonesos provided financial means for repairs of the town's fortifications (IOSPE I² 438; Solomonik 1964: no. 25; 1973: no. 134).

The aforementioned inscriptions were written in Greek. This considerably diminishes a probability that the Roman garrison was directly involved in the mentioned construction and repair works. Furthermore, it does not come out from the content of the surviving texts that the Roman army participated in the commemorated investments.

In the case of the citadel of Chersonesos a significant source of information is offered by remains of internal buildings from the 2nd and 3rd c. AD. These are interpreted as built and used by Roman soldiers (Karasiewicz-Szczypiorski 2001; Antonova, Zubar' 2003). However, particular care is needed for attempts at extrapolating ob-

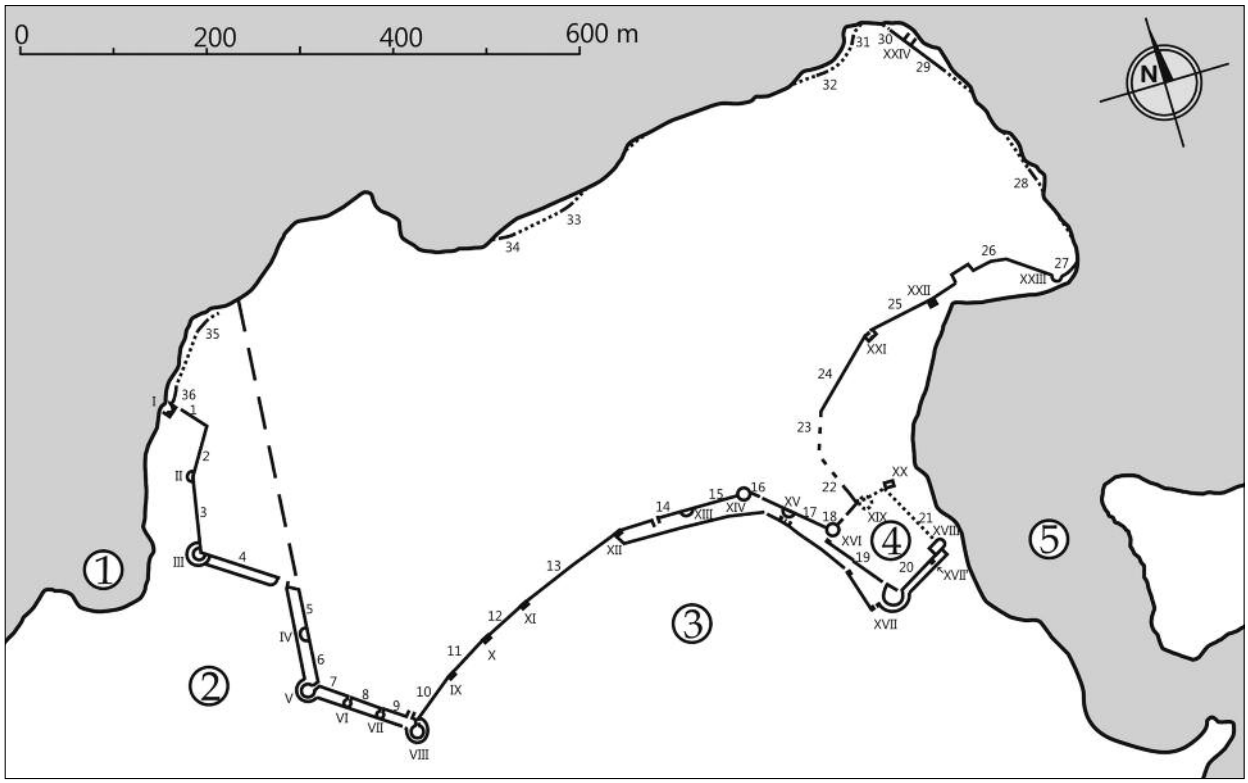

Fig. 1. Chersonesos Taurica. General plan. Curtains of town walls are marked with Arabic numerals and turrets are marked with Roman numerals (after: Bert'e-Delagard" 1907, drawing P. Zakrzewski). 1 – Pesočnaâ Buhta (Sandy Bay); 2 – Pesočnaâ Balka (Sandy Ravine); 3 – Karantinnaâ Balka (Quarantine Ravine); 4 – citadel; 5 – Karantinnaâ Buhta (Quarantine Bay).

Рис. 1. Херсонес Таврический. Общий план. Арабскими цифрами обозначены куртины городских стен, а римскими цифрами – башни (по Бертье-Делагарду [Bert'e-Delagard"] 1907). 1 – Песочная бухта; 2 – Песочная балка; 3 – Карантинная балка; 4 – Городская цитадель; 5 – Карантинная бухта.

Ryc. 1. Chersonez Taurydzki. Plan ogólny. Cyframi arabskimi oznaczono kurtyny murów miejskich, a cyframi rzymskimi baszty (za: Bert'e-Delagard" 1907). 1 – Pesočnaâ Buhta (Zatoka Piaskowa); 2 – Pesočnaâ Balka (Jar Piaskowy); 3 – Karantinnaâ Balka (Jar Kwarantann); 4 – cytadela miejska; 5 – Karantinnaâ Buhta (Zatoka Kwarantann).

servations concerning garrison buildings to such an extraordinarily complex structure as town fortifications. There are also numerous traces which allow to identify places of burials of soldiers, veterans and civilians who accompanied the garrison at the nearby municipal cemetery (Kostromičëv 2005; 2011; Karasiewicz-Szczypiorski 2013). These defensive walls, however, were built long before the arrival of the Romans and were in use for many centuries after their departure. A complex and multi-phase nature of surviving remains of the fortifications makes the interpretation even more difficult. The problem is significantly rendered worse by the fact that most excavations were carried out with no cross-sections by cutting the remains of fortifications from archaeological layers. Documentation of archaeological research which has lasted since the 1880s is in most cases either insufficient or it did not survive at all. Bearing in mind these numerous difficulties, each scholar who analysed the unearthed walls had very broad opportunities to interpret and date the surviving remains. A chance of acquiring new information was offered by geological analyses, combined with an identification of building material which was used in the course of centuries for the construction of the fortifications. M. Krajcarz, a geologist from the Polish Academy of Sciences, who worked in the research team led by the author of this paper, identified raw materials in the defensive walls. He also attempted at pointing out the distance to the nearest available deposit and at identifying the depth of the layer from which a specific material could be extracted.

The first result of this work was an unpublished geological report, kept at the Institute of Archaeology of the University of Warsaw. Selected observations from this report were used in this paper, compared with historical, archaeological and architectural data.

Chersonesos fortifications near Quarantine Bay (Karantinnaâ Buhta). Archaeological data and the geological investigations

Thanks the research carried out by the geologist in the surviving remains of the defensive walls of Chersonesos, 14 rock types (lithotypes) were identified. These lithotypes were isolated based on macroscopic and microscopic traits.

Each of identified rock types was then localised in natural outcrops in the Heraclean Peninsula.

L1 – "main" coquina
L2 – reef serpulid limestone
L3 – Inkerman nummulitic-orbitolina coquina
L4 – Inkerman coquina with intraclasts
L5 – detritic limestone without bioclasts
L6 – fine-grained calcarenite
L7 – partially re-crystallised porous limestone
L8 – oolitic limestone
L9 – talus limestone with Serpulids
L10 – porous yellow detritic limestone
L11 – calcirudite with molluscs
L12 – crystalline limestone
L13 – Inkerman calcarenite
L14 – porous grey calcarenite

Geological investigations were carried on preserved remains of the town's walls (outer and inner faces) in the south-eastern part of the ruins of the ancient town, starting with Curtain 16 to Curtain 20, with adjacent turrets. As far as basic observations are concerned, results of previous research in this particular section are convergent. The earliest bonds include first of all lower parts of Curtains 16 and 17, as well as of Turret XVI. Slightly later are, i.a., lower parts of Curtain 19, which belongs to the earliest phase of the citadel's fortifications. In the case of the mentioned curtains and turrets, remains of later rebuilds rose upwards. This tendency was in accordance with the accumulation of cultural layers on both sides of this section of the fortifications. A quick pace of increase of layers, especially in the foreground of the walls, was related to their location on the bottom of a local depression of the terrain (Quarantine Ravine – Karantinnaâ Balka). The matter was different in the case of Turret XVII and Curtain 20, which were situated higher. Their repairs and rebuilds left traces in the shape of subsequent layers of masonry wall which were "growing" from outside to earlier fortifications. This process can be best seen in subsequent so-called "thickenings" of Turret XVII. It is probable that transformations of the defence line on the side of the Quarantine Bay (Karantinnaâ Buhta) took yet another shape. As an example one can mention Curtain 21. Its Hellenistic phase (from the period of construction of the citadel) is located inside later fortifications and is covered with remains of Roman period buildings. In all probability, both in this place and at the neighbouring Curtain 22 the waters of the bay "receded" gradually. The littoral zone was subject to silting, which enforced an adjustment of the course of fortifications to changes in the shore line. It was only the construction of each subsequent phase of the citadel's fortifications directly near the water (or perhaps in the water?) that effectively secured the port against a potential attack along the shore line.

These basic observations concerning the sequence of building phases of the walls of Chersonesos, combined with the analyses carried out by M. Krajcarz, allow to propose several hypotheses which contribute to our knowledge on the town's fortifications. At this occasion, we also acquired additional data concerning the scale and extent of stone exploitation in the rural territory of Chersonesos in subsequent periods.

A degree to which different raw materials were used in the construction of the walls is not even. It was also possible to notice that during the construction of structures of/in specific phases of the fortifications the builders usually preferred only one (less often two) kind of building material. Due to the subject of the paper, only the most significant pieces of information were selected from the geological report. They inform us about the most noticeable traces of rebuilding of the fortifications. More attention was paid to building activity which may be related to the Roman period.

One clear regularity can be seen in the whole set of geological inquiry carried out in the walls of Chersonesos. In the earliest phases, the builders used raw materials which were located in the closest neighbourhood of the building site and in possibly shallowest deposits. In the course of centuries, one made use of building material from farther and farther from the town and deeper and deeper below the ground. Material from which the lowest parts of Curtains 16 and 17 and of Turret XVI were constructed is very shallowly deposited (even in the territory of the town) "main" coquina (Lithotype 1). In this early phase this is the only material which was used by the builders. In later rebuilds it was also eagerly used, which is especially noticeable in Curtain 16. However, in the course of centuries other raw materials were also used more and more often, at least as admixture.

An example of making use of building material from somewhat beyond the town and/or from deeper deposits in quarries is the use of detritic limestone without bioclasts (Lithotype 5). It was used in lower parts of Curtain 19 and almost certainly in the one-time superstructure of the earlier Turret XVI. Both structures should be related to the foundation of the first fortifications of the citadel. An interesting feature is the use of raw material which was not very resistant but very impressive. After extraction, stone of this kind had a very clear pattern in the form of alternate white and yellow stripes (**Figs. 2:1, 8:1**). The builders must have been well aware of technical imperfection of the raw material they used, as the defensive wall was erected from tiny blocks. Thanks to this, a risk of later mechanical damage of individual elements was reduced.

Similar deposits as in the case of Lithotype 5 which was discussed above, were exploited in order to obtain raw materials referred to as Lithotype 9 and Lithotype 10. These are talus limestone with Serpulids and porous yellow detritic limestone respectively. Lithotype 10 co-occurred in the same deposits with Lithotype 5, while Lithotype 9 was deposited slightly deeper.

Both mentioned raw materials appear in all probability at the beginning of the Roman Period. An example

Fig. 2. Curtain 19, interface with the earlier Turret XVI. View from the outer ward (R. Karasiewicz-Szczypiorski). 1 – surviving part of the defensive wall from the earliest building phase (Hellenistic wall).

Рис. 2. Куртина 19, стык с ранней башней XVI. Вид со стороны перибола. 1 – сохранившаяся часть стены ранней строительной фазы (эллинистическая стена).

Ryc. 2. Kurtyna 19, styk ze starszą basztą XVI. Widok od strony międzymurza. 1 – zachowana część muru z najstarszej fazy budowlanej (mur hellenistyczny).

of a mass use of Lithotypes 9 and 10 are central layers of blocks in surviving remains of Curtain 17 (**Fig. 3**). Bearing in mind the present level of the terrain and counting from below, these are rows from 3–4 to 8–9 (closer to Turret XV) and rows from 2–3 to 8 (closer to Turret XVI).

The analysis of distribution of both raw materials and the share of other admixtures in Curtain 17 allows to propose several hypotheses which can enrich our knowledge on the construction of the defensive walls and reasons behind their rebuilds. The discussed phase (i.e., the preserved sequence of layers of blocks) in the external face of Curtain 17 can be divided into 5 segments. A different distribution of raw materials in isolated segments may suggest that these were constructed subsequently (from left to right), that is, starting from Turret XV. Segment 1 (**Fig. 3:1**) consists almost exclusively of Lithotype 1, with a minimum admixture of Lithotypes 9 and 10. In this case it must be firmly stressed that the entire analysis omits instances of occurrence of individual blocks belonging to types which do not occur regularly, in larger quantities, in a given structure. These blocks were considered traces of later repairs, consisting in filling of subsidence in the existent face. Segment 2 (**Fig. 3:2**) is mainly Lithotype 1 in its lower parts, replaced with Lithotype 10 in its upper parts. Segment 3 (**Fig. 3:3**) is also a mixture of Lithotypes 1 and 10, with a reservation that the latter occurs in the segment's lower parts, chiefly near Segment 2. Segment 4 is chiefly Lithotype 9 (**Fig 3:4**), while Segment 5 is almost exclusively Lithotype 10 (**Fig. 3:5**).

These observations may lead to several interesting conclusions, which are worth considering.

First of all, the rebuild of Curtain 17 was carried out in such a manner that blocks from the previous phase (Segment 1) were initially used. In Segment 2 (**Fig. 3:2**) the construction was also started with the use of blocks which may have been salvaged. Then, new building material was used. Segments 3 and 4 are already dominated by new building material; however, both segments differ significantly. Such a sequence may imply that for the needs of the reconstruction one initially salvaged blocks from an earlier defensive wall which was destroyed or dismantled. On the other hand, the use of two types of rock may suggest that two different building teams worked on the walls next to each other, or that the raw materials were supplied from different pits in a quarry during subsequent building stages. In each case this observation proves that the curtain was constructed not simultaneously in its entire length, but in stages – in segments from left to right.

The scale of investments allows to suppose that for some period of time the town lacked any efficient defence, at least in this part of the fortifications. It is very probable that a broad-scale reconstruction is to be related to the time of origin of the earliest phase of the external wall (*proteichisma*) in the foreground of hitherto fortifications. The mentioned wall was constructed in an exceptional manner, as compared with the main line of the town's fortifications. Rubble stone which was joined with clay only was used for

the construction. Such a technique, not found in the construction of the fortifications of Chersonesos, was a standard solution during the construction of fortifications in nearby Roman posts (in Balaklava-Kadykovka and on Kazatskaya Hill and Kavkaz Bair). Many scholars expressed their opinions with regard to the chronology of the first *proteichisma* (Koscûško-Valûžinič 1901: 27, 35; 1906: 60; Bert'e-Delagard" 1907: 156, 158; Grinevič 1926: 55; Pâtyševa 1974: 76; Antonova 1971: 160; 1975: 68; 1988: 6–7; 1996: 105, 123; cf. Appendix). Remarks of Antonova seem to be the most significant. This researcher discovered the early phase of the external wall and later on she analysed results of her research for several times. It must be underlined that the foundation trench of the *proteichisma* cut through earlier layers which deposited gradually. These can be dated to the period from the 3rd to the 1st c. BC. The same layers covered remains of the earliest building phase in Curtain 17. This observation demonstrates that in the time of construction of the external wall the main line of fortifications was dismantled to the ground level. Rows of face stones which were deposited below were left as foundation of the new wall. In this period the discussed phase of Curtain 17 came into existence. It was constructed from various types of building material, with a considerable share of blocks salvaged from the dismantlement of previous fortifications.

The construction of the first *proteichisma* in the discussed part of the town's fortifications can be dated to the 2nd half of the 1st or the beginning of the 2nd c. AD. A *terminus post quem* is marked by a coin of Nero which comes from the structure of the defensive wall (Antonova 1996: 105). Furthermore, stratigraphic observations and an attempt at correlating layers with neighbouring architectural remains are also of significance. The mentioned new wall of Curtain 17 was constructed in a "free access" manner. During the construction, layers of blocks were laid on the assumption that they would constitute the face and not the foundation of the wall. This is demonstrated by the accuracy of the bond, although the use of different building materials rendered it difficult to obtain an ideal layout of stone layers. The external wall was reinforced with a series of buttresses from the side of the outer ward. This solution points to two significant facts. First of all, it confirms that at that time the road in the outer ward went on a low level (the earthwork which filled the outer ward did not exist yet). Furthermore, the use of the reinforcement from the inner side demonstrates that the level of the ground was higher in the foreground than in the outer ward. It is not very probable that a future (quicker) pace of accumulation of layers in the foreground of the external wall was assumed at the time of construction (e.g., by means of natural landslides in the ravine or a purposeful construction of the earthwork). The way of construction of the discussed defensive wall is in accordance with guidelines stated in the work of Vitruvius (Vitr. *De Arch*. 1. 5. 6; 6. 8. 6–7). In the light of the remarks offered by this ancient architect it is worth asking whether the structure with the buttresses did not fulfil a function of a revetment wall or a fortified counter-slope. It is probable that the accumulation of layers in the foreground of the fortifications which preceded the construction rendered it necessary to build a stone reinforcement? Such a structure could hold the layers accumulating in Quarantine Ravine at some distance from the proper line of the fortifications. As a sort of by-product, a kind of a dry moat in front of Curtains 16, 17 and 19 could come into being.

In order to establish a chronology of the almost simultaneous construction of both lines of walls in the segment of Curtain 17 it is important to analyse the stratigraphy.[3] In the newly formed outer ward one notices a gradual accumulation of layers, which are interpreted as subsequent surfaces of the road which went there. It led in all probability to an old gate in Curtain 16. The mentioned layers are dated rather broadly to the 1st c. BC – 1st c. AD (Gilevič 1960: 25–27). Another building activity which left a distinct trace in the stratigraphy is a thick fill layer in the outer ward. In reference to the aforementioned hypothesis on the revetment wall and not the external defensive wall, it could be supposed that filling of the space between the defensive walls was to prevent external layers from exercising a further pressure on the fortified counter-slope (or the external wall?). If the outer ward was partially filled up, it was obviously necessary to heighten the inner wall. Perhaps at the same time the first *proteichisma*/revetment wall was converted into the actual external line of fortifications, and this may have occurred not only in the foreground of the discussed segment of the walls. In such a case the opinion of Antonova that the external wall in other parts of the fortifications of Chersonesos came into existence slightly later, i.e., in the 2nd c. AD (Antonova 1988: 6–7) would be true. It must be remembered, however, that in her later publications she did not divide the construction of the first phase of the external wall into stages.

The mentioned fill in the outer ward contributed to the preservation of lower parts of the defensive wall, which was already in use at that time. Thanks to this, there survived i.a. remains of the discussed rebuild in Curtain 17 and of the earliest (Hellenistic) Curtain 19 (cf. Antonova,

[3] Antonova believed that there was a close temporal relation between subsequent rebuilds in both lines of the defensive walls (Antonova 1996: 125).

Nikonov 2009: 17). On the other hand, the old gate in Curtain 16 was also filled and walled up. This fact marks a *terminus ante quem* for the use of Curtain 17 after the discussed rebuild and the use of the revetment wall/the first *proteichisma* in its foreground. When searching for the most probable date of this event, it is worth mentioning chamber graves of the Roman Period which were built on to the external face of Curtain 16 (actually, near the old gate). These graves were built straightaway on the assumption that their external walls (with the exception of their stone vaults) would be completely covered with earth. This observation results from a significant difference in the way of processing of blocks: these used for the construction of walls of Tombs 1013 and 1014 (**Fig. 4:1**), and those used to close the chambers from above (**Fig. 4:2**). A possibility that the discussed structures were constructed already after the filling of the space in the outer ward was pointed out i.a. by Koscûško-Valûžinič (1901: 29–30). The mentioned tombs, being multiple burial graves, are dated to in a general manner only. The earliest coins which were found in them come from the end of the 1st c. AD (Bert'e-Delagard" 1907: 154–156). In Tomb 1014 a coin of Titus was found, among others (Grinevič 1926: 55). The filling of the gate and the construction of the tombs are also believed to be simultaneous and are dated to the late 1st – early 2nd c. AD (Pâtyševa 1974: 76).

In the light of the discussed facts it can be supposed that the external defensive wall was constructed to offer a provisory protection for destroyed (or intentionally dismantled) main fortifications of the town. Under this protection, reconstruction works were started, but in all probability two lines of defence were left after that. Almost at the same time the earliest external wall was constructed and the main line of fortifications of Chersonesos was rebuilt. Gathered material allows to draw such conclusions only with regard to the part of fortifications with Curtains 16, 17 and 19. In all probability the discussed reconstruction of the defensive walls took place in the 2nd half of the 1st c. AD or at the beginning of the 2nd c. AD. Rebuilding is related with probable intervention of the Roman troops under the command of Tiberius Plautius Silvanus (CIL XIV 3608 = ILS 986; cf. p. 88). Building works may have also been done by a garrison from the 5th Macedonian legion, which appeared in Chersonesos in the period of the rule of Trajan (or Antoninus Pius). However, if we refer the reconstruction of Curtain 17 and the construction of the first external wall (revetment wall?) to the beginning of the 2nd c. AD, there would be not much time between the construction of the mentioned fortifications and the filling of the outer ward between them. This might imply that this new building phase should be dated to the period of the rule of Antoninus Pius and related to the activity of the next Roman garrison. On the other hand, the first hypothesis seems to be more trust-worthy, that is, that the two subsequent constructions (rebuildings) of the fortifications may have taken place in the 2nd half of the 1st c. AD and

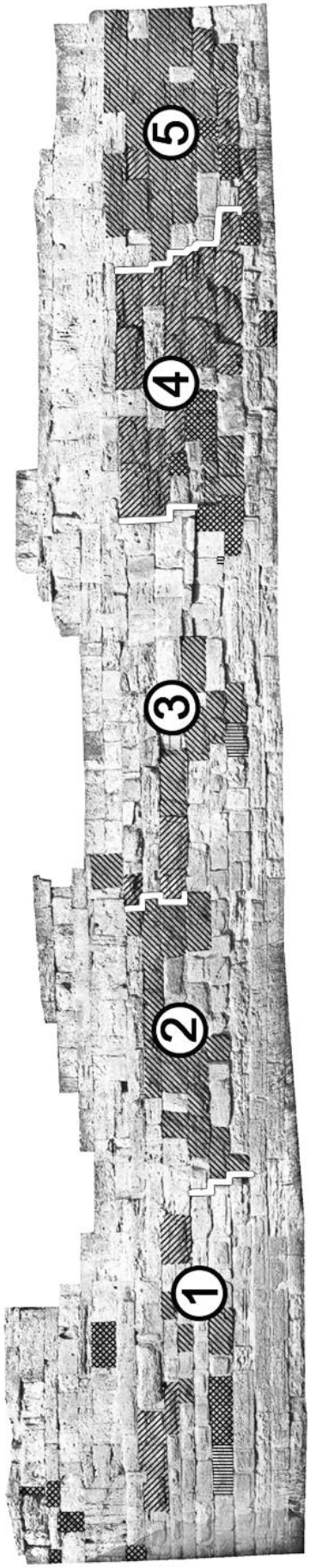

Fig. 3. Curtain 17. View from the outer ward (R. Karasiewicz-Szczypiorski, J. Kaniszewski). 1–5 – sectors differing with regard to selection of building material.
Рис. 3. Куртина 17. Вид со стороны перибола. 1–5 – участки, отличающиеся подбором строительного материала.
Ryc. 3. Kurtyna 17. Widok od strony międzymurza. 1–5 – sektory różniące się doborem materiału budowlanego.
lithotype/литотип /litotyp: – 1 – 6 – 7 – 9 – 10

at the beginning of the 2nd c. AD. Therefore, they may have been related to two short-term stays of Roman troops in the town and maybe in its rural territory. Involvement in building activity may have been one of the reasons of the arrival of the Romans and it could also explain the short period of stay of both contingents. It is certain that the reinforcement of the fortifications of the town rendered it possible to withdraw the troops.

The horizon of military finds from the 1st c. AD, as well traces of the *vexillatio* of the 5th Macedonian legion are almost exclusively limited to the town and perhaps also adjacent rural territories (contra Sarnovskij, Kovalevskaâ 2004). The military presence from the Antonine and the Severan periods is of completely different nature. It is long-lasting and it implies an idea of construction of completely new fortifications in the borderland of the *chora* of Chersonesos. Pushing a possible threat away at a considerable distance from the town renders it less probable that the Romans built or rebuilt town walls. It is only garrisons which station in the citadel in the 3rd c. that clearly intensify their building activity, which is first of all related to fortifying of the citadel itself. An intensification of these efforts, and especially their continuation after the period of the rule of the last representatives of the Severan dynasty, seem to coincide with the abandonment of fortlets in the frontier of the *chora*.

The earliest supposed presence of the Romans was thought to be related to the threat posed by barbarians to the town (CIL XIV 3608 = ILS 986). It seems understandable that weakening of the fortifications, e.g., in result of an earthquake (cf. Antonova, Nikonov 2009: 17), could be an invitation for an invasion from the neighbourhood. Events which may have taken place near Chersonesos in the 1st c. AD could also be related to the possible founding of the earliest external wall. In all probability, this provisory defence offered protection for the rebuilding (reconstruction?) of the part of fortifications in Quarantine Ravine, including Curtain 17.

Obviously, these hypotheses must be treated with utmost care. It is worth, however, to assess their probability i. a. in the light of the most recent discoveries concerning the horizon of finds which may be the result of the short-term stay of the Roman troops in the 1st c. AD (Gawroński, Karasiewicz-Szczypiorski, Modzelewski 2014).

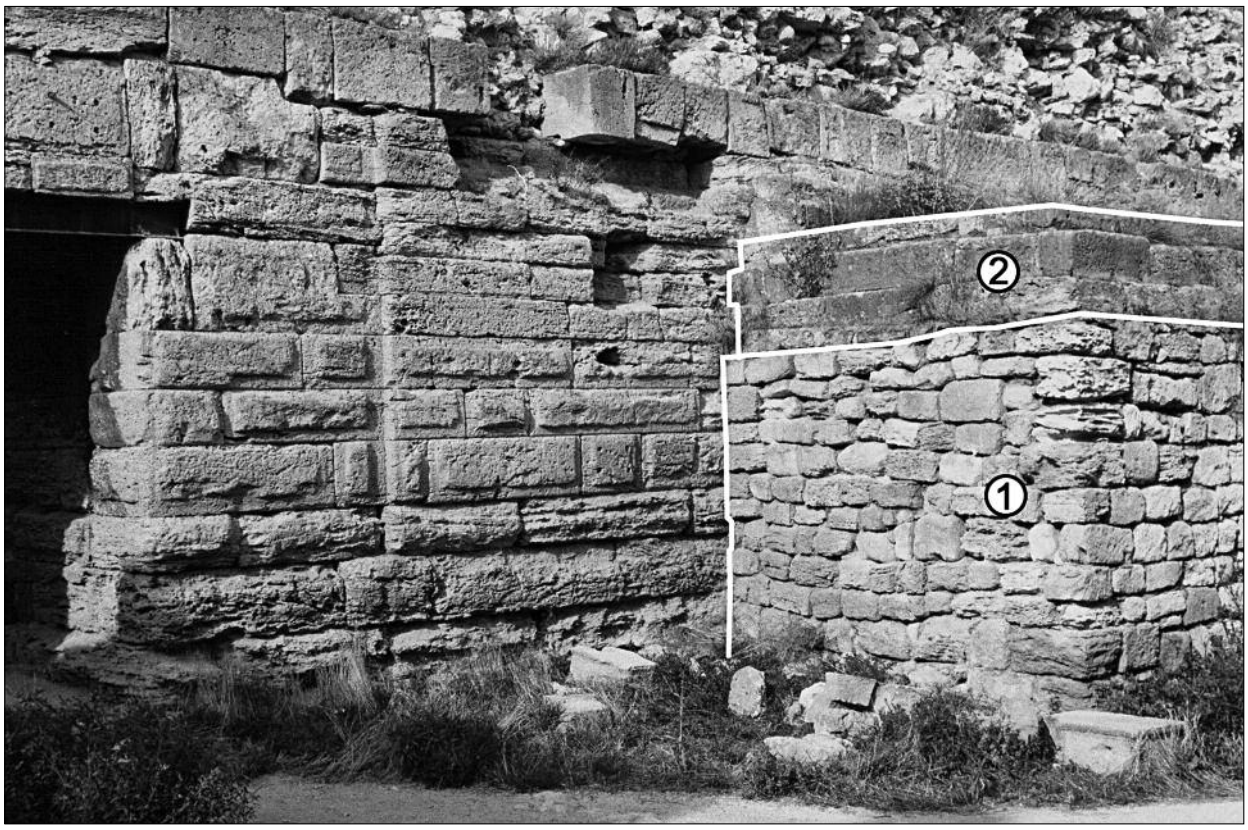

Fig. 4. Curtain 16 and Tomb 1013. View from the outer ward (R. Karasiewicz-Szczypiorski). 1 – walls of the tomb, constructed from roughly cut blocks; 2 – upper part of the structure, made from regular blocks.

Рис. 4. Куртина 16 и склеп номер 1013. Вид со стороны перибола. 1 – стены склепа, сооружённые из нерегулярных блоков; 2 – верхняя часть конструкции выполнена из регулярных блоков.

Ryc. 4. Kurtyna 16 i grobowiec numer 1013. Widok od strony międzymurza. 1 – ściany grobowca wzniesione z niedokładnie dociętych bloków; 2 – górna część konstrukcji wykonana z bloków regularnych.

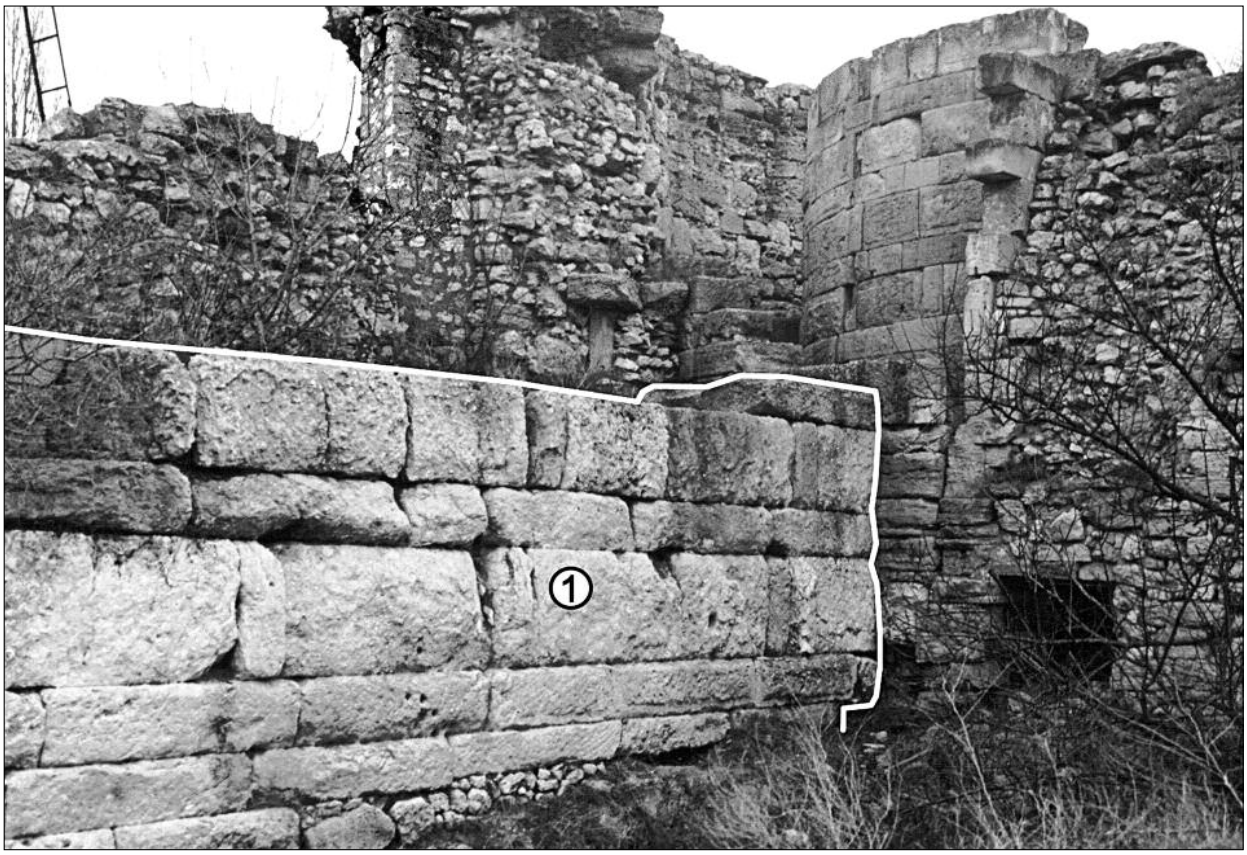

Fig. 5. Curtain 20. View from the interior of the citadel (R. Karasiewicz-Szczypiorski). 1 – remains of the defensive wall constructed in the Roman Period from Inkerman stone.

Рис. 5. Куртина 20. Вид со стороны цитадели. 1 – остатки стены, возведённой в римский период из инкерманского камня.

Ryc. 5. Kurtyna 20. Widok od strony wnętrza cytadeli. 1 – pozostałości muru wzniesionego w okresie rzymskim z kamienia inkermańskiego.

Coming back to geological observations, attention must be paid to raw materials coming from quarries near Inkerman, which are not accessible in the vicinity of the town or in other parts of the Heraclean Peninsula. This group of lithotypes includes: Inkerman nummulitic-orbitolina coquina (Lithotype 3), Inkerman coquina with intraclasts (Lithotype 4) and Inkerman calcarenite (Lithotype 13). Usually, non-geologists use a term "Inkerman stone," without distinguishing between types of raw materials coming from this quarry, which operates until present. An isolation of three lithotypes, out of which Lithotype 3 can be found in the shallowest deposits and Lithotype 13 – in the deepest ones, offers new opportunities of interpretation of various building phases in the walls of Chersonesos.

It must be clearly said that it was not possible to find these raw materials in any parts of the defensive walls which can securely be related to building investments which were carried out before the turn of the eras.

Lithotype 3 was used as building material in one of the phases of Curtain 20, which came into existence simultaneously with the rectangular Turret XVII'. The mentioned structures are dated to the end of the Roman Period (cf. Antonova, Babinov 1970: 249). However, in the light of discussion in the present paper and an architectural analysis carried out by the author, it seems that they may be earlier. They probably were built in the 3rd c. AD (see p. 97). The outer face of the mentioned wall survived, and it is composed of large blocks of white stone. It can be seen on the surface, near Turret XVII (**Fig. 5:1**). Furthermore, a support (thickening) of Turret XVI on the internal side of the citadel was built from this raw material in its lower parts (**Figs. 6:1, 7:1**). However, the reinforcement of the turret was built later on. It is later than buildings in the citadel which were constructed by the Roman garrison in the 2nd–3rd c. AD (cf. Karasiewicz-Szczypiorski 2001: 65, 67 – description of Building E). With regard to the chronology of the rebuild of Turret XVI, local scholars express different opinions. It can be said, however, that it came into existence in the 4th c. AD, at the earliest (Borisova 1964: 51; Antonova 1996; Soročan, Zubar', Marčenko 2000: 513). The reuse of fragments of monumental architectural details (**Fig. 7:2**) in the mentioned structure may suggest that the support was made in a haste, in relation to a sudden lean of the turret (in result of an earthquake?). However, the issue of identification of traces of seismic damage in the walls of Chersonesos is a completely

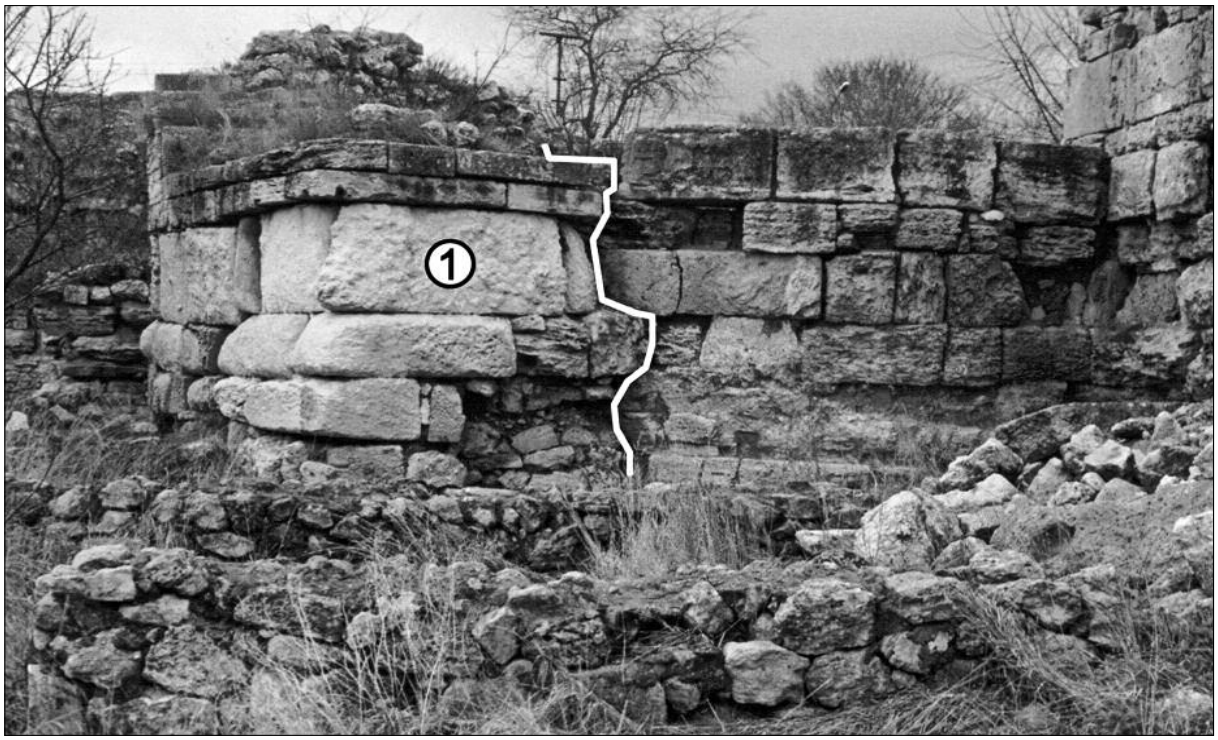

Fig. 6. Thickening of Turret XVI. View from the interior of the citadel (R. Karasiewicz-Szczypiorski). 1 – remains of part of the wall constructed from Inkerman stone.

Рис. 6. Усиление башни XVI. Вид со стороны цитадели. 1 – остатки стены, возведённой из инкерманского камня.

Ryc. 6. Pogrubienie baszty XVI. Widok od strony wnętrza cytadeli. 1 – pozostałości części muru wzniesionej z kamienia inkermańskiego.

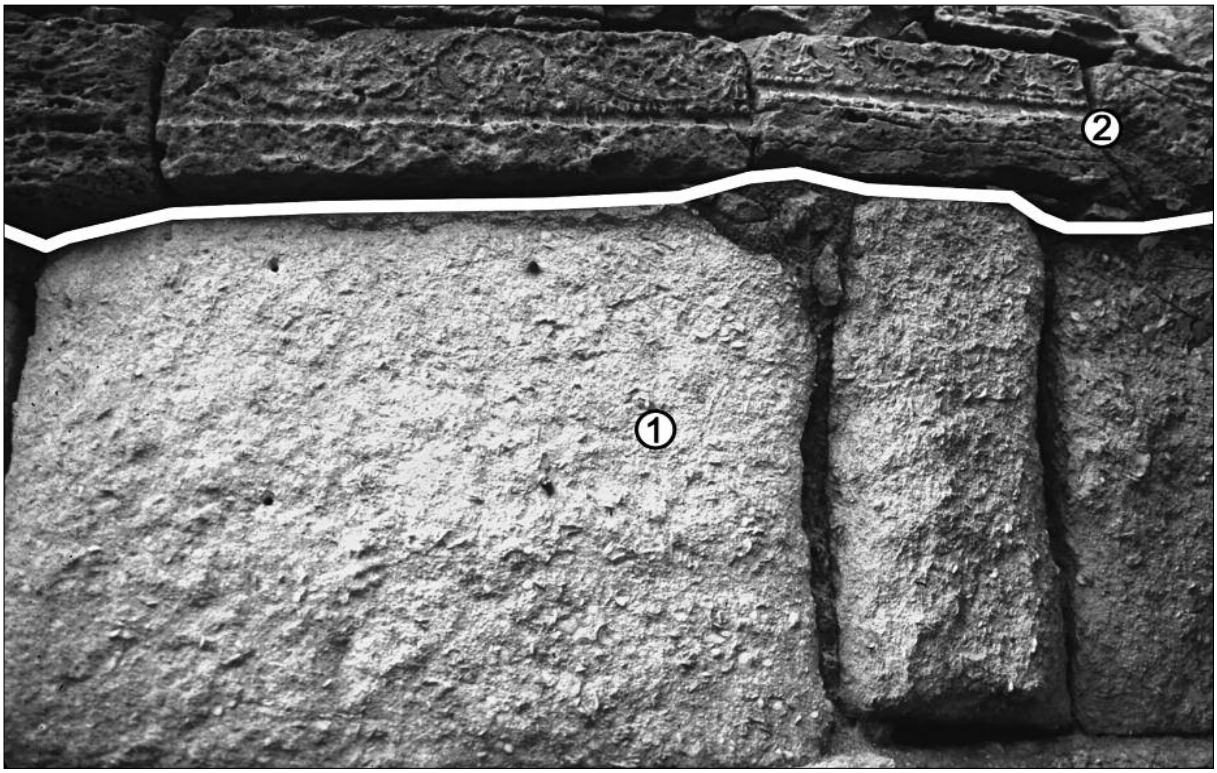

Fig. 7. Thickening of Turret XVI (R. Karasiewicz-Szczypiorski). 1 – blocks of Inkerman stone; 2 – fragments of secondarily used architectural details.

Рис. 7. Усиление башни XVI. 1 – блоки инкерманского камня; 2 – фрагменты вторично использованных архитектурных деталей.

Ryc. 7. Pogrubienie baszty XVI. 1 – bloki kamienia inkermańskiego; 2 – fragmenty wtórnie użytych detali architektonicznych.

different matter, which was discussed in a separate paper (see: Karasiewicz-Szczypiorski, Zawadzka-Pawlewska 2014 – this volume, pp. 113–131).

Lithotypes 4 and 13 (alternately) occur in a mass manner only in structures dated to the Byzantine Period. As examples one can mention an external thickening of Curtain 19 in its part which butts Turret XVII (**Fig. 8:2**) and a wicket which survived in upper parts of Curtain 16, in its part which neighbours Gate XIV (near the present--day gate of the Museum).

These observations seem to be enormously significant for the discussion of chronology of quarries in Inkerman. It is very probable that the mentioned raw material (Lithotype 3 – of good quality, but located far away from the town) was first used by builders in the Roman Period. Antonova believed that Inkerman stone appeared in the walls of Chersonesos only in the 4th–5th c. AD. However, she did not isolate different types of raw materials from the quarry in Inkerman (Antonova 1974: 74). In the present paper, a classification into three lithotypes was introduced for the first time. These lithotypes can be found in remains of the fortifications which belong to different building phases. Concerning Lithotype 3, further research will perhaps allow to specify whether this material was initially popular only in buildings constructed by Roman garrisons, or it appears at the same time in various other contexts in the town. It will also be very significant to verify whether this raw material was not used in some places for earlier (pre-Roman) investments. In the light of hitherto analyses the discussed raw material first occurs in the citadel's walls, whose construction can be related to the period of stationing of the Roman army (the rectangular Turret XVII' and a fragment of the one-time Curtain 20). A strong argument for the relation between the Roman presence and the beginnings of mass exploitations of stone deposits in Inkerman is the fact that this raw material was used for architectural details and sculptural decorations of the Temple of Jupiter Dolichenus in Balaklava. This temple was also founded and constructed by Roman soldiers who stationed in the nearby fort (Sarnowski, Savelja 2000: 86–88).

The appearance of types of Inkerman stone from deeper deposits takes place only in constructions from the Byzantine Period. This seems to only confirm a late (Roman?) chronology of quarries of that place. It was only due to prolonged exploitation of deposits that it became possible to obtain deeper deposited kinds of raw materials in a mass way.

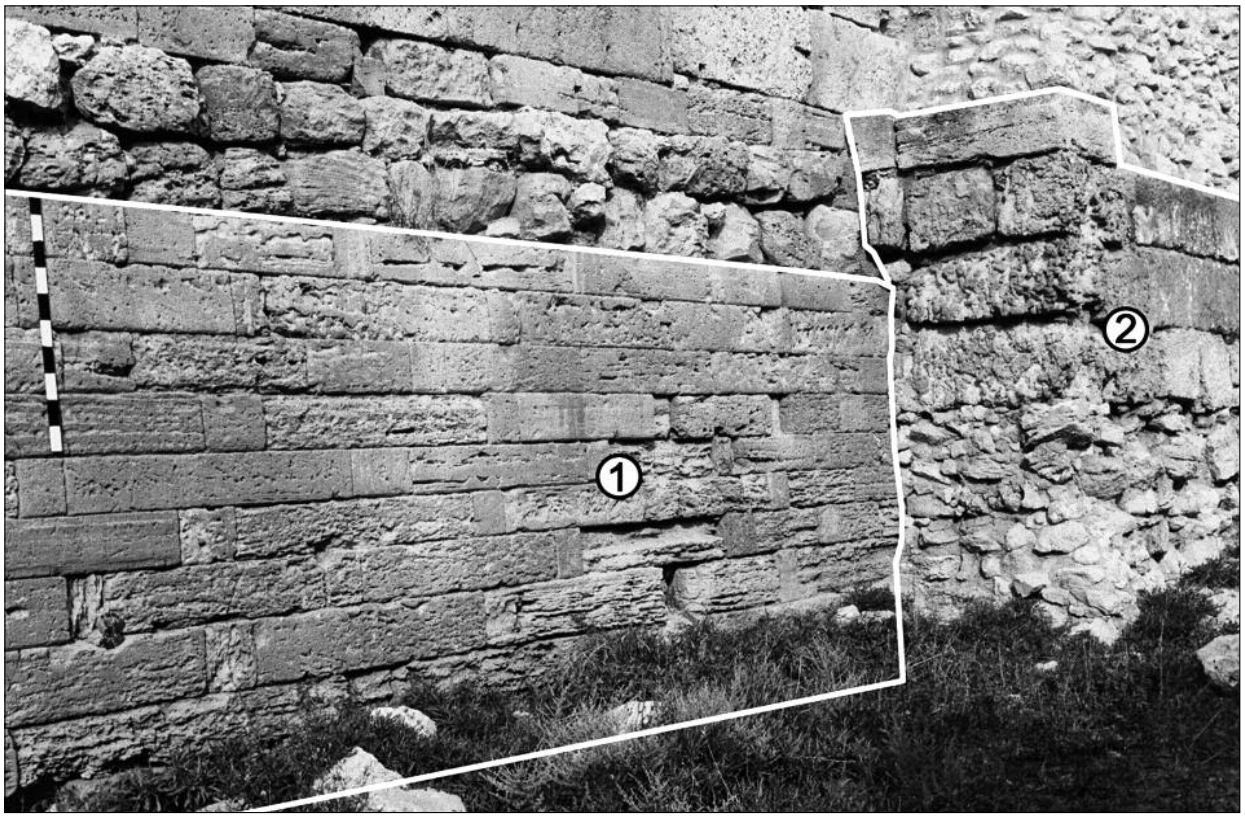

Fig. 8. Curtain 19. View from the outer ward (R. Karasiewicz-Szczypiorski). 1 – surviving part of the defensive wall from the earliest building phase (Hellenistic wall); 2 – thickening of the defensive wall in the neighbourhood of Turret XVII.

Рис. 8. Куртина 19. Вид со стороны перибола. 1 – сохранившаяся часть стены ранней строительной фазы (эллинистическая стена); 2 – усиление стены, соседствующей с башней XVII.

Ryc. 8. Kurtyna 19. Widok od strony międzymurza. 1 – zachowana część muru z najstarszej fazy budowlanej (mur hellenistyczny); 2 – pogrubienie muru w sąsiedztwie baszty XVII.

To sum up the discussed selection of observations resulting from the geological analysis of raw materials which were used for the construction of the fortifications of Chersonesos, it must be underlined that in order to confirm the discussed hypotheses it is recommended to carry out similar investigations of building materials from other structures in the ancient town and in its rural territory.

Other traces of Roman building operations in the walls of Chersonesos

In theory, one should carry out a step-by-step analysis of a possible Roman participation in construction and repairs of all parts of the fortifications of Chersonesos. It is, however, not possible to consider the entire circumference of the walls. This is due to several reasons. In the segment on the side of the Sevastopol Bay the fortifications hardly survived at all. This was due to an intensive erosion of the cliff shore. In the western extremity of the town from Turret I to the end of Curtain 4, the defensive wall from the Hellenistic and Roman Periods is in all probability covered by remains of later buildings. Hitherto excavations only exposed the extent of later fortifications. Remains of these fortifications hardly survived and they were discovered by means of excavations at the beginning of the 20th c., in the segment of Curtains 5 and 6 with Turret IV (Grinevič 1959: 88–99). The terrain from Turret V to Curtain 13 in the part which adjoins Turret XII was destroyed during the construction of fortifications in the 2nd half of the 19th c. All that survived from groundworks which were carried out on this occasion are drawings and notes of Berthier de Lagarde (Bert'e-Delagard") and Garaburda – military engineers who supervised the works. Observations from these works were published to a very limited degree (Garaburda, Skubetov 1908: 8). The first of the mentioned officers devoted a separate paper to the entire complex of Chersonesos' fortifications. However, with regard to the mentioned part of the walls, he admitted that the state of preservation of the remains was very poor (Bert'e-Delagard" 1907: 134).

All this information is very modest and it cannot be a sufficient source to draw any far-reaching conclusions. However, if one analyses the general plan, it can be seen that the outline of fortifications between Turrets V and VIII may suggest that this part of fortifications was extended in the Roman period (**Fig. 1**). For the entire discussed part of the fortifications the best analogy is offered by the south-eastern part of defensive walls in Dibsi Faraj (Syria) (Isaac 1992: 258–259). The fact that the outer ward was curtained with extended Turrets VI and VII, perhaps in order to form a sort of barbican, bears more resemblance to the eastern or the northern gate in Resafa (Syria), which were in all probability constructed between the mid-5th and the mid-6th c. AD, and the *Porta Praetoria* in Aosta, which is several centuries earlier (Gregory 1995: figs. 3.15d, 6.7e; 1996: D8.11). The difference is that in the mentioned examples the neighbouring parts of fortifications consisted of a single line of defensive walls. It can be supposed that within the framework of the assumed "Roman" rebuilding between Turrets VI and VII a sort of *propugnaculum* was constructed. This is an indication which would confirm the existence of one of the gates in this part of the fortifications. Such an opinion was expressed at some point by Antonova (1990: 17).

Concerning the chronology of the aforementioned probable extension of the south-western part of the fortifications of Chersonesos, one may again refer to the example of Dibsi Faraj. In the place of earlier fortifications with small rectangular turrets (similar to Turrets IX–XI in Chersonesos), much more massive rectangular turrets were constructed. Furthermore, in the flank of the mentioned part of fortifications there were hexagonal turrets, which were situated in a similar way to Turrets V and VIII in Chersonesos. The mentioned example of the rebuilding of fortifications from the Near East is dated to the 6th c. AD (Gregory 1996: 135–139). Obviously, this does not determine the chronology of the discussed modernisation in Chersonesos. However, based on it one can doubt whether there was a direct relationship between the probable rebuild and one of garrisons which stationed in the town in the 2nd and 3rd c. AD.

In the light of the mentioned analogy from Dibsi Faraj it seems much more probable that the Roman army participated in the construction of the farther course of Chersonesos fortifications with small rectangular Turrets IX–XI (**Fig. 1**). The fortifications from Turret VIII to Turret XI may have come into existence (in such a shape as recorded on the plans) in the Roman Period. The only indication which supports this hypothesis are the outline of the foundations (small rectangles, which somehow protrude out of the face of the curtain's wall) and a uniform distance between the subsequent turrets. A regular arrangement of the turrets and the mentioned shape are not typical for other parts of the fortifications of Chersonesos. On the other hand, similar solutions will appear in Roman forts and camps of the Principate period. Most examples of rectangular turrets protruding out of the line of walls are dated to the 3rd c. AD (Groot 1981: 346–351). The turrets of Chersonesos should perhaps be dated to in a similar manner. At Novae, an analogous solution was used in fortifications in the 2nd half of the 3rd c. AD (Press, Sarnowski 1990: 240; Ivanov 1997: 563). Moreover, it is worth underlining that (due to their form), within the framework of the same modernisation of fortifications a rectangular casing of Turret XVII' in the citadel and the neighbouring Curtain 20 (the phase constructed from Inkerman stone) may have come into existence.

A probability of the Roman participation in the construction of the segment of fortifications with Turrets IX–XI, and perhaps also in the construction of the analogous, not preserved phase of Turrets VI and VII is further supported by a hypothesis saying that a "small citadel" was located just there. This "small citadel" was probably another

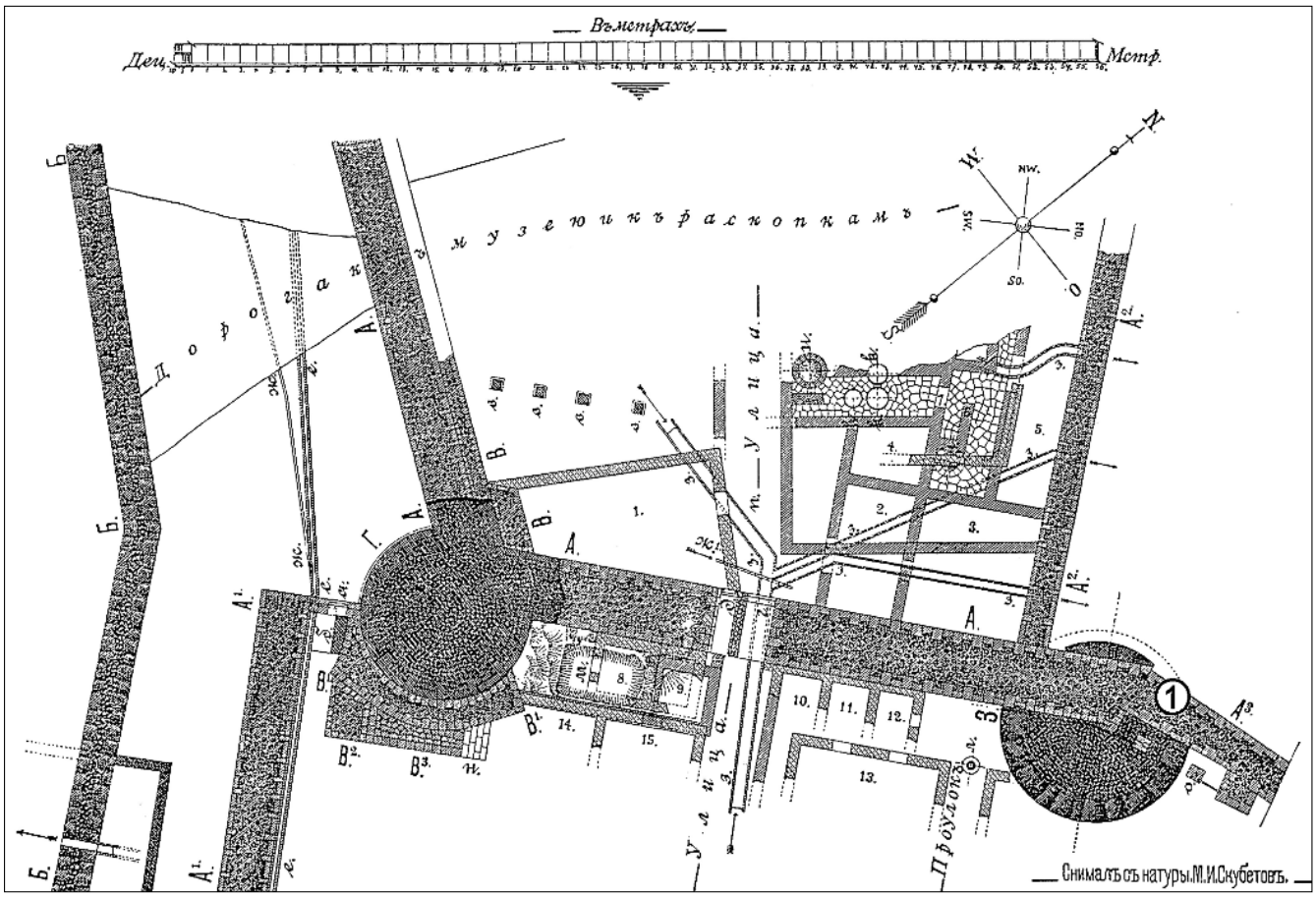

Fig. 9. Chersonesos. Plan from the excavations of Koscûško-Valûžinič (1908: pl. III). 1 – remains of the supposed gate on the ruins of Turret XIX.

Рис. 9. Херсонес. План, полученный в результате исследований К. Косцюшко-Валюжинича. 1 – остатки предполагаемых ворот на руинах башни XIX.

Ryc. 9. Chersonez. Plan z badań Kościuszki-Waluszyńskiego. 1 – pozostałości domniemanej bramy na ruinach baszty XIX.

point (apart from the citadel) where stationed the Romans soldiers in Chersonesos (Koscûško-Valûžinič 1895: 58). This opinion seems to be confirmed by analysis of some elements of furnishings of the Roman period burials at the municipal cemetery. A number of burials which were discovered just in the neighbourhood of the discussed part of fortifications may be a trace of presence of Roman soldiers and civilians who were related to the garrison (cf. Karasiewicz-Szczypiorski 2013).

Much more information which is relevant for the discussion in this paper was yielded by investigations of the further course of the walls. Starting with Curtain 13 up to Turret XVIII on the Quarantine Bay, and partially also farther off along the bay, remains of the fortifications survived in a reasonably good state of preservation. Most of these were discovered during systematic archaeological excavation and field documentation is available. Some of the mentioned remains are also accessible on the surface of the terrain. Thanks to this it was possible, among others, to carry out the geological analysis, whose selected results were discussed above.

When discussing the results of the geological analysis, it was pointed to fragments of curtains and turrets which may have come into existence in the Roman period, perhaps upon the initiative and with the participation of the Roman army. The next step is to point to distinct elements of the defensive system, which may have been constructed from the scratch by the Roman garrison. It has already been stressed above that in all probability it was the gradual silting of the Quarantine Bay that contributed (exactly in the Roman Period) to a necessity of constructing of new fortifications on this side. By means of moving defensive walls into the area which was previously part of the port basin, new space was available for buildings in the citadel and the neighbouring port quarter. Thanks to excavations in the segment belonging to the citadel, it was possible to record the dismantlement of Curtain 21 near the garrison's bathhouse. The curtain was dated to the Hellenistic period (Karasiewicz-Szczypiorski 2001: 63). A certain problem is posed by the lack of traces of the wall which in the 2nd c. AD should have replaced the dismantled earlier fortifications. Another phase of Curtain 21 which was

Fig. 10. Pillars in the territory of the port quarter (1 and 2). Remains of the supposed gate from the Roman Period (R. Karasiewicz-Szczypiorski).

Рис. 10. Пилоны на территории портового квартала (1 и 2). Остатки предполагаемых ворот римского периода.

Ryc. 10. Filary na terenie dzielnicy portowej (1 i 2). Pozostałości domniemanej bramy z okresu rzymskiego.

investigated with excavations may come from the end of the 3rd c. AD at the earliest. This dating is based on a fragmentary statue base or altar with a Latin inscription which was reused in the construction of the defensive wall (Zubar', Sarnovskij, Antonova 2001: 109). The discussed relicts of Curtain 21 were in all probability remains of defensive wall constructed in the course of the same building action as the nearby Turret XVIII. Such a chronology is implied by the foundation of the turret on a plan resembling the letter U (cf. Koscûško-Valûžinič 1900: 23–24, 91–92).

Two buildings – one of them was built in the place of Turret XIX and second one in the vicinity of this Hellenistic turret – may be traces of hitherto unidentified fortifications of the citadel on the side of the bay. These fortifications must have been in use in the 2nd and in the 1st half of the 3rd c. AD. The turret was perhaps dismantled somehow later than the neighbouring (Hellenistic) Curtain 21. However, both elements of the fortifications were pulled down in the period of stationing of the Roman garrison in the citadel (Karasiewicz-Szczypiorski 2001: 63). Based on this, the next phase of fortifications can also be related to building activity of the Romans. Surviving plans from the research of Koscûško-Valûžinič (1908: pl. III; 1909: pl. II; **Figs. 9:1, 11:2**) in all probability show remains of a gate with two pillars and three passages in the discussed part of fortifications. It is very probable that a three-pass gate connected the citadel and the port. It is possible that, analogously to the example discussed in the case of the citadel, Curtain 22 was also moved in the first centuries of our era. This curtain separated the port quarter from the Quarantine Bay. The line of this part of walls, which is still visible on the surface of the ground, is in all probability a surviving trace of an earlier (Hellenistic) curtain. Two pillars which can be now seen among the ruins of the mentioned quarter (**Fig. 10:1,2**) may be traces of the new line of defensive walls, which were located in the area previously covered with the waters of the bay. These pillars may have fulfilled the same function as those which were found by Koscûško-Valûžinič in the place of Turret XIX. Is it therefore possible that as many as two gates came into existence upon the initiative of the Roman garrison at the turn of the 2nd and 3rd c. AD? One of these may have connected the embankment with the citadel while the other – with the port quarter, in all probability civilian at that time.

The progressive silting of the port in the Quarantine Bay may have been a reason behind the construction of another gate as early as the 2nd half of the 3rd c. AD in the discussed part of the fortifications. This new building may have replaced the hypothetic three-pass gate which was constructed in the place of Turret XIX. This feature is called

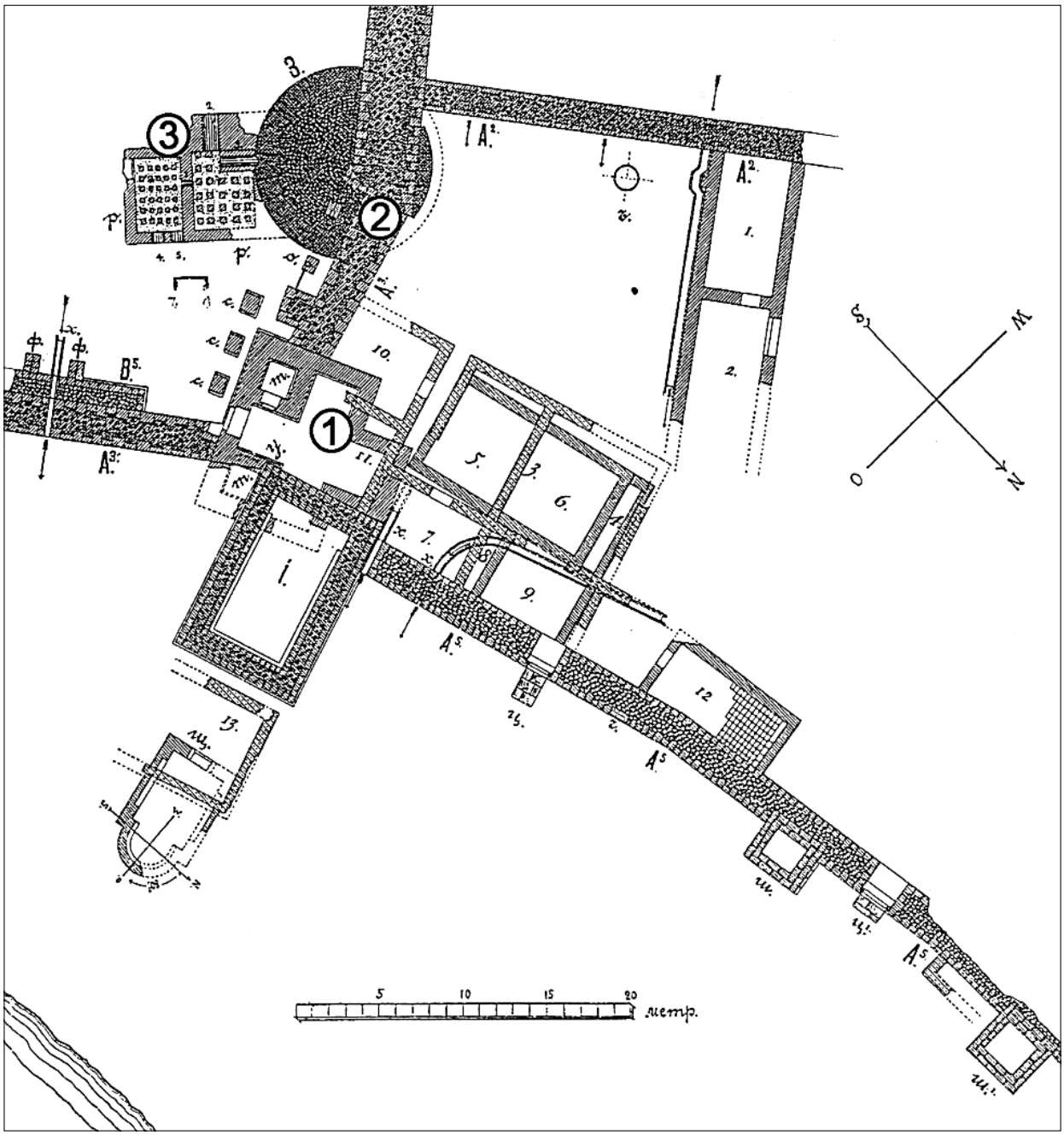

Fig. 11. Chersonesos. Plan from the excavations of Koscûško-Valûžinič (1909: pl. II). 1 – remains of Turret XX; 2 – remains of the supposed gate on the ruins of Turret XIX; 3 – rooms with hypocaust cellars – remains of the therms in the citadel.

Рис. 11. Херсонес. План, полученный в результате исследований Костюшко-Валюжинича. 1 – остатки башни XX; 2 – остатки предполагаемых ворот на руинах башни XIX; 3 – помещения с гипокаустом – остатки терм в цитадели.

Ryc. 11. Chersonez. Plan z badań Kościuszki-Waluszyńskiego. 1 – pozostałości baszty XX; 2 – pozostałości domniemanej bramy na ruinach baszty XIX; 3 – pomieszczenia z piwnicami hypokaustycznymi – pozostałości term w cytadeli.

Turret XX "on the plan of a cross." It seems that it is the outline of the foundations (which is known, as in the previous case, from the documentation of Koscûško-Valûžinič) that may point to constructors of the mentioned building (Koscûško-Valûžinič 1909: pl. II; **Fig. 11:1**). In the defensive system of Chersonesos there are no other similar solutions. It is also difficult to find turrets on the plan of a cross at other Roman Period sites. On the other hand, there are examples of gates (barbicans) constructed on similar plans by Roman troops. It is worth stressing that the original documentation from archaeological research in this part of Chersonesos does not show the entire plan of the turret. Some part of the foundations did not survive. On this basis one could see a building with a not completely clear outline of the foundations, but in all probability with two rooms (guard rooms?) in its corners on the side of the

citadel. Analogous solutions are known from other sites and they were constructed by the Romans as gates secured with a sort of barbican. Most probably, these two corner rooms are traces of small roofed turrets. The rest of the space enclosed with the defensive wall had no roof and it constituted a sort of gatehouse. The greatest similarity to Turret XX can be seen in a gate in fortifications of the Upper Germanic-Rhaetian Limes in Dalkingen upon the Upper Danube and in the eastern gate of the fort in *Sacidava* (Süsskind, Wigg 1992: figs. 25, 64; Scorpan 1980: pls. XXI, XXII). The author of the present paper is obviously aware that the premise in Dalkingen was rather special in its nature; however, this comparison concerns phases preceding the construction of a triumphal gate there.

In sum, it is worth stressing that this issue does not concern a series of one-time gates which are believed to have been constructed by Roman soldiers as part of fortification works in the citadel and the nearby port quarter. Apart from one exception (the supposed gate in the port quarter), we have to do with subsequent phases of the passage which secured the communication between the citadel and the nearby embankment, where Roman warships and supply ships probably moored. The three-pass gate constructed in the place of Turret XIX may have been the first new passage to the port. This building can be dated to the turn of the 2nd and 3rd c. AD at the earliest. At the same time a very similar gate may have come into existence in the new (hypothetic) phase of the nearby Curtain 22. Another gate in the walls of the citadel should have come into being when the previous (three-pass) one was pulled down. It was Turret XX – a single-pass gate which was protected with some sort of barbican. This premise should perhaps be dated to the mid-2nd c. AD at the latest. Later on, the communication with the port may have been maintained via the gate in the central part of the Late Roman Curtain 21. Based on surviving remains, one can suppose that this gate had two passages. Similar solutions are known from, i.a., *Novae* (Svištov) – the western gate (Parnicki-Pudełko 1973: fig. 7; Biernacka-Lubańska 1982: fig. 112), as well as from *Serdika* (Sofia) – the eastern gate (Boâdžiev 1959: fig. 9; Biernacka-Lubańska 1982: fig. 121). It remains open whether the gate in Curtain 21 was flanked with turrets, as in the case of the first of the mentioned analogies, or it rather had a shape of a barbican, as in the other case. The discussed part of the defensive wall probably came into being simultaneously to Turret XVIII (U-shaped, which is typical for Late Roman fortifications). It does not seem incidental that the new gate leads directly towards the bay, as opposed to buildings from previous phases. It could be supposed that the water line moved away once again from the fortifications. The construction of Turret XVIII, which was most advanced into the port basin, may have been a sufficient protection for this new passage. The entire discussed premise should be dated to the late 3rd c. AD at the earliest (Zubar', Sarnovskij, Antonova 2001: 109).

Numerous examples which were discussed in this paper seem to confirm that the Roman army was frequently involved in the construction and modernisation of various parts of the fortifications of Chersonesos, with special reference to the citadel. However, due to the lack of such unequivocal evidence as building inscriptions, we are to a great degree left with conjectures. Anyway, it can be hoped that suggested research directions and proposed hypotheses will be verified in the course of future investigations, which will contribute to our knowledge on the Roman presence in Chersonesos.

Translated by Grzegorz Żabiński

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Appendix

The external wall (*proteichisma* – προτείχισμα) and the outer ward (peribolos – περίβολος) in the south-eastern part of the fortifications of Chersonesos. A review of published data.

Literature

Koscûško-Valûžinič 1900: 23–24; 1901: 27, 35; 1902a: 9; 1902b: 11; 1906: 60;
Bert'e-Delagard" 1907: 116–117, 145, 154–156, 158;
Grinevič 1926: 50; 1927: 7, 90–97;
Gilevič 1960: 24–28;
Pâtyševa 1974: 72–83;
Antonova 1975: 68; 1988: 5–9; 1996: 103–105, 123–125, figs 8, 10.

History of research

1895–1905 – Koscûško-Valûžinič – excavations of the main line of fortifications, as well as the external wall with the outer ward. The only area which was not excavated was the so-called "Passage" (*Peremyčka*), which was the way to the Antiquities Depot, established by the researcher. In 1898–1899 the excavations encompassed the area in front of the external wall; however, they did not reach the undisturbed subsoil level. Only later layers were excavated.
1925 – Grinevič – excavations of sections of the "Passage."
1946 and 1948 – Pâtyševa – excavations on both sides of the external wall, in front of Curtains 16 and 17.
1958 – Gilevič – excavations in the "Passage."
1970 – Antonova – discovery of the early phase of the external wall at Curtains 16–17 of the main line of defensive walls.

Description of discovered remains

The external wall was supposed to lie through main defensive wall, from Turret XII to Turret XVIII. The outer ward was enclosed with a transverse wall on the side of the sea (Bert'e-Delagard" 1907: 145). This wall adjoined the base of Turret XVIII (Koscûško-Valûžinič 1900: 23–24). Based on published data, it is impossible to determine which phase of Curtain 20 or Turret XVIII was adjoined by the external wall.

Phase 1 (external wall)

Lower parts of the surviving wall were constructed from rubble stone and they were in all probability dug into an earlier earthwork (Bert'e-Delagard" 1907: 116–117). Up to the height of 1.7 m, counting from the foundation footing, the external wall is made of stones bonded with clay and it includes numerous fragments of tombstones, referred to as ancient ones. The wall above that level shows lime mortar bonding. Different construction was believed to be evidence that it was discovered a foundation of a defensive wall (dated to the 9th–10th c. AD). It was new construction but not remains of earlier external wall (Pâtyševa 1974: 78).

In the south-eastern part of the town's fortifications 70 metres of the external wall were uncovered. It was 1.2–1.4 m wide and it was located about 9–11 m from the main line of fortifications (Antonova 1971: 159; 1996: 123); what survives now is a ca. 40 m long line of the defensive wall, made from rubble stone bonded with clay. These remains are thought to be the earliest vestige of the external wall in the fortifications of Chersonesos. The structure was reinforced with buttresses, located each every 4.5–5 m (Antonova 1975: 68). They protruded about 0.5 m from the face of the wall (Antonova 1996: 123).

Remains of Phase 1 were best preserved in front of the gate in Curtain 16, where they reached the height of 2.2 m. The reinforcing buttresses were located on the side of the outer ward.

Phase 1 (outer ward)

The first elevation of the ground level in the outer ward was a one-time event. The earthwork was believed to come into existence in the Roman period (Koscûško-Valûžinič 1902b: 11). The entire fill in front of Curtains 15–19 came into being in a one-time action. It was made after the construction of two earliest phases of Curtain walls 15–17 and the earliest phase in Curtain 19 (Bert'e-Delagard" 1907: 92, 108–109, 136). The lower part of the fill consisted of homogeneous soil with a small number of finds, and it corresponds to the level, to which the earliest phase of the main wall survived (Grinevič 1926: 51). The earliest sequence of layers came into existence in a gradual way. Finds related to this level are dated to the 3rd–1st c. BC. The external wall cut through these layers with its foundation trench. The foundation also cut through the next sequence of layers, which is dated to the 1st c. BC – 1st c. AD. This sequence contained legible remains of a series of surfaces of the road which went in parallel to the defensive walls (Gilevič 1960: 25–27). Gilevič did not yet isolate Phase 1 of the *proteichisma*, which was discovered in 1970. Observations preceding the investigations carried out by Antonova must have referred to Phase 2 of the discussed defensive wall. This phase came into being later on. As it was much stronger, it should have destroyed the interface of the layers in the outer ward with the earliest phase (Phase 1) of the external wall.

Wall "B" (external wall) came into existence when the entire "ancient Greek" ("drevnegrečeskij") wall (the

earliest phase of Curtain 16) was artificially buried up. The height of the fill was believed to reach up to the upper surfaces of Tombs 1013 and 1014 (Koscûško-Valûžinič 1901: 27, 35). These tombs were constructed already after the wall (the earliest phase of Curtain 16) and the gate had been buried (Koscûško-Valûžinič 1901: 29–30). Tombs 1013 and 1014 were believed to be constructed on the surface of the ground and then they were buried up. A low level of the ground (originally) in the outer ward is also suggested by the fact that the gate in Curtain 16 was walled up with face blocks with rustication (Antonova 1996: 125).

Phase 2 (external wall)

The new wall was made of stones bonded with lime mortar (Antonova 1975: 69). It was constructed only in the south-eastern extremity of the town's fortifications. This was due to the fact that the increase of layers of soil on the external side of the fortifications (and the pressure of the soil) were believed to pose a threat to the stability of the earlier wall (Antonova 1988: 9). As compared with Phase 1, the wall was broadened by 1 m (on the side of the foreground of the fortifications). Lower parts of the earlier wall were used as part of the foundation of Phase 2. There are no burials from this period in the outer ward (Antonova 1996: 123).

Phase 3 (external wall)

The new wall, 2.8–3 m thick, was constructed at a farther distance from the main line of the walls than it was the case in the previous phases. Due to the construction of Phase 3 of the external wall it was necessary to raise the structure of the main line of fortifications (Antonova 1988: 8). The thickness of the external wall in the wicket in front of Curtain 16 is 2.25 m. Stones in this wall were bonded with coarse-grained lime mortar. When works on raising the structure of the inner wall (in the same phase) in Curtain 19 commenced, the level of the ground in the outer ward was higher than the level which was reached by builders. Perhaps for this reason the first two layers of the new wall were constructed from unworked stone, as from the very beginning they fulfilled the role of the foundation. The foundation of the external wall in this phase was believed to be entirely dug into the earlier earthwork (Bert'e-Delagard" 1907: 109).

Chronology

Antonova believes that there was a close temporal relation between subsequent rebuilds in both lines of the defensive walls (Antonova 1996: 125).

Phase 1: the Roman Period, probably not later than the 1st c. AD (Koscûško-Valûžinič 1901: 27, 35); the "Roman-Byzantine period" ("rimsko-vizantijskaâ èpoha") (Koscûško-Valûžinič 1906: 60); the 2nd c. AD – the segment from Turret XII to Turret XV; the 5th–6th c. AD – the segment from Turret XV to Turret XVII (Bert'e--Delagard" 1907: 156, 158); Tombs 1013 and 1014 in the outer ward are dated to the late 1st c. AD, based on coin finds, Tomb 1009 – dated to by a coin of Domitian, and Tomb 1058 – by a coin from the end of the 2nd c. AD (Bert'e-Delagard" 1907: 154–156); in Tomb 1014 a coin of Titus was found (Grinevič 1926: 55); not earlier than in the 2nd c. AD (Antonova 1971: 160) in the external wall of Phase 1 there were found 75 fragments of tombstones from the 4th–3rd c. BC and from the 1st–2nd c. AD; the end of the 1st c. AD – early 2nd c. AD – dating of the filling up of the gate in Curtain 16 and the construction of Tombs 1013 and 1014 (Pâtyševa 1974: 76); the Roman Period – a complete reconstruction of the defensive system of Chersonesos (Antonova 1975: 68); the 1st or the early 2nd c. AD – reconstruction in the period of stationing of the Roman troops in the town. The external wall in the south-eastern part of fortifications was believed to come into existence slightly earlier than its other parts, which are dated to the 2nd c. AD (Antonova 1988: 6–7); the end of the 1st–2nd c. AD – construction of all the segments of the external wall, fragments of Hellenistic tombstones and a coin of Nero in the wall of Phase 1; this chronology is believed to be also confirmed by the chronology of the tomb, where one of the walls is part of the external defensive wall (Antonova 1996: 105, 123).

Phase 2: the 5th – 6th c. AD (Antonova 1988:8).

Phase 3: "the entire Wall B was build in the Byzantine Age" ("vsâ stena B sooružena v vizantiîskuû èpohu") (Koscûško-Valûžinič 1902a: 9) – this researcher probably meant only the shallowly deposited remains of Phase 3; the segment of the external wall in front of Curtain 19 was supposed to be the latest – its foundations cut through numerous graves in which coins were found: Maximinus (Grave 314), Constantine the Great (Grave 337) and Constantius II (Grave 361) (Bert'e-Delagard" 1907: 158); the 9th–10th c. AD – based on ceramic finds from the excavations of the "Passage" (Gilevič 1960: 28; cf. Antonova 1975: 69; 1988: 8); the 9th–10th c. AD – the origin of the external wall as such, based on results of research in the outer ward at Curtains 16 and 17 (Pâtyševa 1974: 78).

Abbreviations

CIL – *Corpus Inscriptionum Latinarum*.
IAK – "Izvestiâ imperatorskoj Arheologičeskoj kommissïi".
ILS – *Inscriptiones Latinae Selectae*.
IOSPE I² – B. Latyschev, *Inscriptiones antiquae Orae Septentrionalis Ponti Euxini. Inscriptiones Tyrae, Olbiae, Chersonesi Tauricae aliorum locorum a Danubio usque ad regnum Bosporanum*, Petropoli 1916.
OAK – "Otčët" imperatorskoj Arheologičeskoj kommissïi".
Vitr. *De Arch*. – M. Vitruvius Pollio, *De architectura libri X*.
Tac. *Ann*. – P. Cornelius Tacitus, *Annales*.

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Римская армия и стены Херсонеса

Оборонительные стены Херсонеса исследуются с 80-х годов XIX в. Большая часть сохранившихся остатков была обнаружена во времена, когда интерпретации соотношения археологических слоёв и строительных остатков не уделялось должного внимания. Также много вопросов возникает к документации и публикациям результатов исследований. В такой ситуации каждый археолог и архитектор имеют полную свободу для своих выводов, которые, на наш взгляд, не очень обогащают знания о фортификационных сооружениях Херсонеса.

В настоящий момент, по результатам предыдущих раскопок, можно констатировать, что сохранившиеся остатки куртин и башен полностью изолированы от археологического контекста. Чтобы сделать какие-то новые выводы и расширить существующие знания нами было принято решение использовать достижения из других областей науки. Прежде всего был осуществлён геологический анализ с целью идентификации пород камней, использованных в строительстве оборонительных стен.

Геолог Матей Крайцаж, работающий в составе экспедиции под руководством автора настоящего текста, выявил на участках сохранившихся стен 14 типов пород камня (литотипов). Монолитные типы (литотипы) были выделены на основании макроскопических и микроскопических характеристик. Каждый из обозначенных типов пород камней позднее был локализирован в естественных выходах скал на Гераклейском полуострове. Из обширного геологического отчёта для настоящего исследования выбрано только несколько основных кладок стен, которые можно связать с настоящей темой. Геологические исследования выявили одну основную тенденцию. С течением времени, в последующих столетьях древние строители брали камень всякий раз дальше от города и всякий раз в более глубоких геологических отложениях. В самых нижних частях куртин 16 и 17, а также башни XVI использован литотип 1, который доступен на очень небольшой глубине даже на территории города. Нижняя часть куртины 19, а также надстройка ранней башни XVI, сооруженные во время строительства цитадели, были выложены из литотипа 5. Эта порода камня доступна на территории более отдалённой от города. Примечательно, что строители рискнули использовать камень невысокой прочности, но отличающийся декоративностью. Эта порода камня имеет выразительный рисунок в виде сменяющихся белых и жёлтых полос (**Рис. 2:1, 8:2**).

Монолитные типы 9 и 10, вероятнее всего, использовались в начале римского периода. Литотип 10 наблюдается в тех же залежах, что и монолитные типы 5 и 9, но залегает немного глубже.

Оба типа строительного материала находим в перестроеной куртине 17 (ряды блоков от 2–4 до 8–9, считая от современной поверхности грунта). Геологический анализ показал, что восстановление этой части стены осуществлено в пять этапов (**Рис. 3:1–5**).

Сначала был построен участок около башни XV – почти исключительно из литотипа 1 (из разобранной более ранней стены?). Потом отстраивались последущие участки, постепенно приближаясь к башне XVI. Участок 2 главным образом представлен литотипом 1 (в нижних частях), был заменён литотипом 10 (в верхних частях). Участок 3 также представляет смешение литотипов 1 и 10 с той разницей, что второй литотип появляется в нижних частях, чаще всего по соседству с участком 2. Участок 4 построен в основном из камней литотипа 9, а участок 5 – почти исключительно из литотипа 10.

Скорее всего, чтобы восстановить (или ремонтировать?) стены у Карантинной бухты на их подступах была взнесена первая в истории Херсонеса внешняя стена (протейхизма). Стена сооружена из ломанного

камня, соединённого глиной. Такая техника, ранее не известная в укреплениях Херсонеса, была также использована при строительстве стен римского форта в Балаклаве и сторожевого поста на высоте Казацкая.

Представленные факты были рассмотрены с учётом немногочисленной информации о стратиграфии на участке между оборонительными стенами, а также существующей датировки изученных культурных напластований и архитектурных остатков. На этом основании можно допустить, что описанная перестройка куртины 17 (а, скорее всего, также соседних башен и куртин) совпадает со строительством внешней стены и может быть датирована серединой I в. н.э. Следующая перестройка данного участка укреплений, которая связывается с нивелированием (засыпью) междустенного пространства, могла быть осуществлена в начале II в. Предложенная датировка была соотнесена с имеющейся информацией о хронологии и периодизации присутствия римских войск в Таврике. На этом основании первую из перестроек можно отнести к коротковременному присутствию римского корпуса, связанному с именем Тиберия Плавтия Сильвана (Ti. Plautius Silvanus; CIL XIV 3608 = ILS 986). Аргументы в пользу присутствия в это время римских войск в Херсонесе также даёт проведённый анализ находок, в том числе элементов оружия, снаряжения и сбруи (Gawroński, Karasiewicz-Szczypiorski, Modzelewski 2014). Следующая перестройка городских укреплений может быть связана с коротковременным расположением vexillatio V Македонского легиона во время правления Траяна или Антонина Пия. Кажется достаточно логичным что чтобы не держать в Херсонесе постоянного гарнизона, оборонительные укрепления были отремонтированы и усилены. В свете представленных данных, а также предложенной их интерпретации, менее правдоподобным кажется, что первая перестройка и строительство внешней стены относятся к началу II в., а следующий ремонт и засыпь части междустенного пространства осуществлены только во время правления Антонина Пия. Введённые в Крым во время правления этого императора римские подразделения остаются на долго и строят укрепления на границах хоры Херсонеса. Мало вероятно, что укрепление пограничной зоны и перестройка городских стен осуществлялась одновременно.

Для изучения римского военного присутствия в Крыму существенной кажется информация, полученная в результате геологического анализа, которая относится к добыче инкерманского камня. В стенах Херсонеса выделено три вида этой породы: литотипы nr 3, 4 и 13, из которых соответственно nr 3 залегает в каменоломнях на самом верху, а nr 13 выступает на самой глубине.

Вышеописанные наблюдения открывают новые возможности интерпретации разных строительных периодов указанных укреплений. Прежде всего, не выявлено примеров использования инкерманского камня в стенах, возведённых до нашей эры. Литотип 3 был использован для строительства одного из участков куртины 20, который датируется римским периодом. Этот участок находится по соседству с башней XVII (**Рис. 5:1**), представляет собой внутреннее лицо стены, сложенное из больших белых блоков. Усиление башни XVI со стороны цитадели также выполнено из камней той же породы (**Рис. 6:1, 7:1**), хотя, скорее всего, относится к более позднему времени, чем упомянутые остатки куртины 20. Следует заметить, из упомянутого типа камня также выполнены архитектурные детали и резные декорации святилища Юпитера Долихена в Балаклаве.

Литотипы 4 и 13 (попеременно) появляются только в строительных фазах, датируемых византийским периодом. Примером могут служить: усиленные участки с внешней стороны куртины 19, в части, прилегающей к башне XVII (**Рис. 8:2**), а также калитка, сохранившаяся в верхней части куртины 16, по соседству с башней XIV (рядом с существующим главным входом в музей «Херсонес Таврический»). Представленные факты позволяют выдвинуть гипотезу, что камень в Инкермане начали добывать только во время покоя и стабилизации, которые наблюдались благодаря постоянному присутствию римского войска. Использование строительного материала из Инкермана в стенах цитадели и святилища Юпитера в Балаклаве свидетельствует, что на сооружение своих объектов этот камень поставляли также (а может, главным образом?) римские солдаты. Данное наблюдение позволяет задать вопрос, не связано ли начало добычи инкерманского камня со строительными инвестициями римлян в Крыму?

Таким образом, выходя за рамки геологического анализа и его интерпретаций, в тексте допускается возможность участия римских солдат в строительстве или ремонте других участков городских укреплений. Похоже, наиболее значительным был вклад прибывших военных в перестройку укреплений цитадели и соседнего портового квартала. Представленные гипотезы основаны, прежде всего, на изучении опубликованных планов исследований Карла Косцюшко-Валюжинича (Koscūško-Valūžinič 1908: табл. III; 1909: табл. II; **Рис. 9, 11**), а также на многократном сравнительном анализе данной информации с существующей ситуацией на территории городища автором настоящего текста. На этом основании можно предположить, что во время пребывания римлян в цитадели неоднократно были перестроены укрепления со стороны Карантинной бухты. Каждый раз применялись новые решения коммуникации между цитаделью и побережьем, тянущимся вдоль портового квартала. Укрепления цитадели должны были быть приспособлены к изменяющейся (отступающей) береговой линии, чтобы эффективно прикрывать порт. По этой причине скорее всего не было побережья с портовой застройкой вдоль куртины 21 (сравн. **Рис. 1**). Первым, построенным римским войском, непосредственным соединением цитадели с портом, могли быть

ворота с тремя пролётами, которые, скорее всего, были сооружены на месте башни XIX в начале III в. Может быть, похожие ворота соединили в это же время побережье с портовым кварталом. Следами этого прохода могут быть два пилона, видимых в настоящий момент среди руин (**Рис. 10:1,2**). Немного позже функцию ворот приняла новая башня XX. Её оригинальный план находит аналогии в приёмах строительства римлянами главных ворот, которые использовались в фортификациях лимеса (Dalkingen, сравн. Süsskind, Wigg 1992: рис. 25, 64; *Sacidava*, сравн. Scorpan 1980: табл. XXI, XXII). Затем, скорее всего, в конце III в. были сооружены ворота в центральной части куртины 21.

Однако, данное предположение доказывало бы, что побережье продолжалось, по крайней мере, на какой-то отрезок длины упомянутой куртины. Скорее всего, это было возможно после сооружения башни XVIII (на плане обозначена буквой „U"). Выдвинутая в сторону бухты угловая башня цитадели должна была достаточно надёжно защищать портовые сооружения. Усиление одной башни обходилось дешевле, чем перемещение вглубь акватории целого участка укреплений с куртиной 21.

В заключение также следует обратить внимание на планы несуществующих в настоящий момент оборонительных сооружений юго-западной части Херсонеса (**Рис. 1**), которые имеют небольшие прямоугольные башни от nr IX до nr XI, размещённые почти на одинаковом расстоянии и выглядят как типичный образец укреплений форта или римского лагеря. Форма башен свидетельствует о их перестройке в III веке. Скорее всего, привлечение римского войска в модернизацию упомянутого участка стен вполне согласуется с гипотезой Карла Косцюшко-Валюжинича о локализации в этой части укреплений „малой цитадели" (Koscûško-Valûžinič 1895: 58). Может быть, данный участок являлся дополнительным местом дислокации римского войска вблизи стен? Похоже, что выдвинутая гипотеза также подтверждается результатами повторного анализа захоронений римского времени, расположенных рядом с участком некрополя (Karasiewicz-Szczypiorski 2013).

В результате, следует подчеркнуть, что участие римского войска в строительстве и ремонте укреплений Херсонеса, не смотря на отсутствие однозначных эпиграфических свидетельств, является очень реальным. Ремонты и строительство новых оборонительных стен, возможно, совпадают по времени с периодами коротких военных интервенций Рима в Таврике. Долговременную дислокацию (во второй половине II – первой половине III вв.) следует связывать со строительством системы безопастности на границах хоры (учитывая Балаклаву).

Исключением в данный период может быть строительная активность на стенах цитадели, со стороны Карантинной бухты, что было обусловлено причинами безопастности, а также, как кажется, поисками дополнительной площади под застройку для гарнизона, закрытого в тесной цитадели.

Повторный отказ от длительного военного присутствия в Херсонесе в конце правления династии Северов (посты на Сапун-горе и форт в Балаклаве были покинуты), по-видимому, снова сопровождался работами на оборонительных стенах города. Следы строительной активности находим как в юго-западной части укреплений, так и в Карантинной бухте. Масштаб предпринятых работ значительно увеличивается, доказательством чего, между прочим, является, строительство новой куртины 21 вместе с воротами и башней XVIII.

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Radosław Karasiewicz-Szczypiorski

Armia rzymska i mury Chersonezu

Mury obronne Chersonezu są badane od lat 80. XIX w. Większość zachowanych reliktów została odsłonięta w czasach, gdy do interpretacji styku warstw archeologicznych i architektury nie przykładano wystarczającej uwagi. Również dokumentacja i publikacje z badań pozostawiają wiele znaków zapytania. W tej sytuacji każdy archeolog i architekt ma dużą swobodę wyciągania wniosków, trudno dziś jednak zauważyć znaczący postęp w dyskusji na temat umocnień Chersonezu.

Zachowane pozostałości kurtyn i baszt w wyniku wcześniejszych wykopalisk zostały całkowicie odcięte od kontekstu archeologicznego. Szansą na nowe wnioski i poszerzenie naszej wiedzy jest zastosowanie doświadczeń z innych dziedzin. Z tego powodu przeprowadzono analizę

geologiczną i identyfikację rodzajów kamienia użytych do budowy murów obronnych.

Geolog Maciej Krajcarz (Instytut Nauk Geologicznych PAN), pracujący w ramach ekspedycji kierowanej przez autora niniejszego tekstu, rozpoznał w zachowanych fragmentach murów 14 typów skał (litotypów). Litotypy zostały wyróżnione na podstawie cech makroskopowych i mikroskopowych. Następnie każdy z oznaczonych typów skał zlokalizowano w naturalnych wychodniach na Półwyspie Heraklejskim. Z obszernego raportu geologicznego na potrzeby niniejszej analizy wybrano tylko kilka najistotniejszych wątków, które można powiązać z podjętą tematyką. Badania geologiczne ujawniły jedną zasadniczą tendencję. Wraz z upływem czasu, w kolejnych stuleciach budowniczowie sięgali po kamień coraz dalej od miasta i do coraz głębszych pokładów geologicznych. W najniższych partiach kurtyn 16 i 17 oraz baszty XVI zastosowano litotyp 1, dostępny bardzo płytko nawet na terenie miasta. Dolna część kurtyny 19, oraz nadbudowa starszej baszty XVI, które powstały podczas budowy cytadeli, zostały wzniesione z litotypu 5. Jest to rodzaj kamienia dostępny nieco dalej od miasta. Ciekawe, że zaryzykowano użycie surowca o niewielkiej odporności, ale bardzo efektownego. Kamień ten ma wyraźny rysunek w formie naprzemiennych białych i żółtych pasów (**Ryc. 2:1, 8:2**).

Po litotypy 9 i 10 sięgnięto najprawdopodobniej u progu okresu rzymskiego. Litotyp 10 występował w tych samych złożach z litotypem 5, a litotyp 9 zalegał nieco głębiej. Oba typy budulca znajdziemy w przebudowanej kurtynie 17 (rzędy bloków od 2–4 do 8–9, licząc od obecnej powierzchni gruntu). Analiza geologiczna wykazała, że odbudowę tej części muru prowadzono w pięciu etapach (**Ryc. 3:1–5**). Najpierw powstawał odcinek przy baszcie XV – niemal wyłącznie z litotypu 1 (z rozbiórki starszego muru?). Potem wznoszono kolejne odcinki zbliżając się stopniowo do baszty XVI. Odcinek 2 to w dolnych partiach przeważnie litotyp 1, zastąpiony w partiach górnych litotypem 10. W odcinku 3 również stwierdzono występowanie litotypów 1 i 10, z tym że ten drugi pojawia się w niższych partiach, najczęściej w sąsiedztwie z odcinkiem 2. Odcinek 4 to przede wszystkim litotyp 9, a odcinek 5 to niemal wyłącznie litotyp 10.

Prawdopodobnie, żeby odbudowywać (lub remontować) mury nad Zatoką Kwarantann, na ich przedpolu wzniesiono pierwszy w dziejach Chersonezu mur zewnętrzny (*proteichisma* – προτείχισμα). Był on wykonany z łamanego kamienia łączonego gliną. Technika ta, nieznana z fortyfikacji Chersonezu, była stosowana podczas budowy murów rzymskiego fortu w Bałakławie, a także posterunku obserwacyjnego na wzgórzu Kazackaja.

Przedstawione fakty były analizowane w połączeniu z nielicznymi informacjami na temat stratygrafii w międzymurzu oraz propozycjami datowania badanych warstw i reliktów architektonicznych. Na tej podstawie można przypuszczać, że opisana przebudowa kurtyny 17, a prawdopodobnie także sąsiednich baszt i kurtyn, połączona z budową muru zewnętrznego, może być datowana na połowę I w. n.e. Kolejna modernizacja tego odcinka umocnień, która wiązała się z niwelacją (zasypaniem) międzymurza, mogła być prowadzona na początku II w. Proponowane datowania zostały porównane z dotychczasową wiedzą na temat chronologii i periodyzacji obecności wojsk rzymskich w Taurydzie. Na tej podstawie można pierwszą z przebudów próbować odnieść do prawdopodobnej, krótkotrwałej obecności rzymskiego korpusu, prawdopodobnie wysłanego na Krym przez Tyberiusza Plaucjusza Sylwanusa (Ti. Plautius Silvanus), namiestnika Mezji w latach 62–67 n.e. (por. CIL XIV 3608 = ILS 986). Argumenty na rzecz obecności w tym czasie wojsk rzymskich w Chersonezie przynosi także analiza zabytków ruchomych, w tym elementów broni, oporządzenia i uprzęży (Gawroński, Karasiewicz-Szczypiorski, Modzelewski 2014). Kolejna przebudowa fortyfikacji miejskich może być w takim przypadku wiązana z proponowanym przez autora niniejszego artykułu, krótkotrwałym stacjonowaniem *vexillatio* legionu V Macedońskiego w okresie rządów Trajana lub Antoninusa Piusa. Wydaje się dość logiczne, że, aby nie utrzymywać na miejscu stałego garnizonu, remontowano i rozbudowywano umocnienia. W świetle prezentowanych danych oraz proponowanej ich interpretacji mniej prawdopodobne wydaje się, że pierwsza przebudowa głównej linii umocnień i budowa muru zewnętrznego miały miejsce u progu II w., a kolejny remont i zasypanie części międzymurza – dopiero za panowania Antoninusa Piusa. Wprowadzone na Krym podczas rządów tego władcy oddziały rzymskie pozostają na długo i budują umocnienia na granicach chory Chersonezu. Mało prawdopodobne, aby fortyfikując pogranicze, jednocześnie kładziono nacisk na modernizację murów miejskich.

Z wyników analizy geologicznej, dla studiów nad rzymską obecnością wojskową na Krymie istotne wydają się także informacje odnoszące się do wydobycia kamienia inkermańskiego. W murach Chersonezu wyróżniono trzy rodzaje tego surowca – litotypy: 3, 4 oraz 13, z których litotyp 3 zalega w kamieniołomie najpłycej, a 13 występuje najgłębiej.

Obserwacja powyższa otwiera nowe możliwości interpretacji różnych faz budowlanych omawianych umocnień. Przede wszystkim nie stwierdzono przykładów stosowania kamienia inkermańskiego w pozostałościach murów powstałych przed naszą erą. Litotyp 3 został użyty do budowy muru jednej z faz kurtyny 20, która jest datowana na okres rzymski. Jej pozostałość stanowi lico wewnętrzne muru, widoczne na powierzchni w części sąsiadującej z basztą XVII (**Ryc. 5:1**). Zostało ono złożone z dużych białych bloków. Pogrubienie baszty XVI od strony cytadeli również wykonano z tego surowca (**Ryc. 6:1, 7:1**). Najprawdopodobniej jest ono jednak późniejsze od wspomnianych reliktów kurtyny 20. Z omawianego typu kamienia wykonano także detale architektoniczne i dekoracje rzeźbiarskie świątyni Jowisza Dolicheńskiego w Bałakławie.

Litotypy 4 i 13 pojawią się naprzemiennie dopiero w fazach budowlanych datowanych na okres bizantyjski. Za przykłady mogą posłużyć pogrubienie od zewnątrz kurtyny 19 w części przylegającej do baszty XVII (**Ryc. 8:2**) oraz furta zachowana w górnych partiach kurtyny 16, w części sąsiadującej z basztą XIV (obok obecnej bramy głównej Muzeum „Chersonez Taurydzki"). Przedstawione fakty pozwalają na wysunięcie hipotezy, że wydobycie kamienia w Inkermanie zapoczątkowano dopiero w okresie pokoju i stabilizacji, jaki miasto zawdzięczało stałej obecności rzymskiego wojska. Użycie surowca z Inkermanu w murach cytadeli oraz w świątyni Jowisza w Bałakławie dowodzi, że kamień ten sprowadzali na swoje place budów także, a może głównie, żołnierze rzymscy. Może więc należałoby pójść o krok dalej i zadać sobie pytanie, czy początki wyrobiska inkermańskiego nie wiążą się z inwestycjami budowlanymi Rzymian na Krymie?

Wychodząc poza ramy analizy geologicznej i jej interpretacji, podjęto także rozważania na temat możliwości udziału żołnierzy rzymskich w budowie lub remoncie innych odcinków fortyfikacji miejskich. Najbardziej prawdopodobny wydaje się wkład przybyszów w modernizację umocnień cytadeli oraz sąsiedniej dzielnicy portowej. Prezentowane hipotezy opierają się przede wszystkim na analizie publikowanych planów z badań Karola Kościuszko-Waluszyńskiego (Koscûško-Valûžinič 1908: pl. III; 1909: pl. II; **Ryc. 9, 11**) oraz na konfrontacji tych danych z reliktami w terenie przez autora niniejszego tekstu. Na ich podstawie można przypuszczać, że w czasie pobytu Rzymian w cytadeli umocnienia od strony Zatoki Kwarantann zostały kilkakrotnie przebudowane. Za każdym razem stosowano nowe rozwiązanie komunikacji pomiędzy cytadelą a nabrzeżem ciągnącym się wzdłuż dzielnicy portowej. Umocnienia cytadeli musiały być dostosowywane do cofającej się linii brzegowej, aby skutecznie osłaniać port. W związku z tym istnienie nabrzeża portowego wzdłuż kurtyny 21 wydaje się mało prawdopodobne (por. **Ryc. 1**). Pierwszym, wzniesionym przez rzymskie wojsko, bezpośrednim połączeniem cytadeli z portem mogła być brama trójprzelotowa. Powstała ona najprawdopodobniej na miejscu baszty XIX na początku III w. Być może bardzo podobna brama połączyła w tym samym czasie nabrzeże z dzielnicą portową. Śladem tego przejścia mogą być dwa filary widoczne obecnie wśród ruin (**Ryc. 10:1,2**). Nieco później funkcję bramy przejęła nowa baszta XX. Jej nietypowy plan znajduje analogie w rzymskich rozwiązaniach bramnych stosowanych w fortyfikacjach limesowych (Dalkingen, por. Süsskind, Wigg 1992: ryc. 25, 64; *Sacidava*, por. Scorpan 1980: pls. XXI, XXII). Z kolei w końcu III wieku powstała prawdopodobnie brama pośrodku kurtyny 21. Dowodziłoby to jednak przedłużenia nabrzeża przynajmniej na część długości wspomnianej kurtyny. Prawdopodobnie było to możliwe po wzniesieniu baszty XVIII na planie litery „U". Wysunięta w stronę zatoki baszta narożna cytadeli musiała stanowić dostateczne zabezpieczenie instalacji portowych. Rozbudowa jednej baszty była tańsza niż kolejne przesunięcie w głąb akwenu całego odcinka umocnień z kurtyną 21.

Na zakończenie warto także zwrócić uwagę na plany nieistniejących obecnie umocnień w południowo-zachodniej części Chersonezu (**Ryc. 1**). Rozmieszczone w niemal identycznych odległościach trzy małe prostokątne baszty (nr IX, X, XI) wyglądają jak typowy przykład umocnień fortu lub obozu rzymskiego. Zastosowany kształt baszt sugeruje, że przebudowa miała miejsce w III w. Prawdopodobne zaangażowanie wojska rzymskiego w modernizację wspomnianego odcinka murów pozostawałoby w zgodzie z hipotezą Karola Kościuszko-Waluszyńskiego o zlokalizowaniu w tej części umocnień „małej cytadeli" (Koscûško-Valûžinič 1895: 58), być może dodatkowego miejsca stacjonowania wojska rzymskiego w pobliżu murów. Teorię tę zdają się także potwierdzać wyniki ponownej analizy grobów z okresu rzymskiego z pobliskiej części cmentarzyska (Karasiewicz-Szczypiorski 2013).

Reasumując, należy podkreślić, że udział rzymskiego wojska w budowie i remontach umocnień Chersonezu, mimo braku jednoznacznych świadectw epigraficznych, jest bardzo prawdopodobny. Remonty i rozbudowa murów wydają się zbiegać w czasie z okresami krótkich interwencji wojskowych Rzymu w Taurydzie. Długotrwałe stacjonowanie (w 2. połowie II – 1. połowie III w.) zaowocowało budową systemu bezpieczeństwa na granicach chory, z uwzględnieniem Bałakławy.

Wyjątek w tym zakresie może stanowić aktywność budowlana na murach cytadeli, od strony Zatoki Kwarantann. Była ona wymuszona względami bezpieczeństwa oraz prawdopodobnie poszukiwaniem dodatkowej przestrzeni pod zabudowę dla garnizonu zamkniętego w ciasnej cytadeli.

Ponowna rezygnacja ze stałej obecności wojskowej w Chersonezie u schyłku dynastii Sewerów (opuszczenie posterunków na Sapun-gorze i fortu w Bałakławie) wydaje się znów owocować naciskiem na prace fortyfikacyjne w mieście. Ślady aktywności budowlanej znajdujemy zarówno w południowo-zachodniej części umocnień, jak i nad Zatoką Kwarantann. Znacząco zwiększa się skala podejmowanych prac, czego dowodem jest m.in. budowa nowej kurtyny 21 wraz z bramą oraz baszty XVIII.