

Komisja Prehistorii Karpat PAU
Instytut Archeologii Uniwersytetu Wrocławskiego
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Muzeum Historyczne w Sanoku

Acta Militaria Mediaevalia

tom XII

Kraków – Sanok – Wrocław 2016

Acta Militaria Mediaevalia XII
Kraków – Sanok – Wrocław 2016, s. 35-50

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A STUDY OF LAMELLAR ARMOUR PLATES FROM THE LOWER CASTLE OF VILNIUS

Abstract:

P. Bugys 2016, A study of lamellar armour plates from the Lower Castle of Vilnius, AMM XII: 35-50

The article deals with the lamellar armour plates from the grounds of the Lower Castle of Vilnius, found in the cultural layers dated to the 2nd half of the 14th – beginning of the 15th c. Exceptional attention is given to the structural analysis of the studied artefacts. Structural analysis of the lamellar armour discovered on this territory is based on the clusters of interlinked plates and on individual elements. The text distinguishes subtypes and variations of the plates that are both, scientifically known and have no analogues.

Key words: Lithuania, Vilnius, Middle Ages, Lamellar armour

The grounds of the castles of Vilnius cover the area of several hectares and are situated at the confluence of the rivers of Neris and Vilnia. These rivers meet at the center of the current city of Vilnius – what is currently considered as the northern part of the Old Town. The Upper Castle of Vilnius was an integral part of the overall defensive structures at the time, which in the 14th c. comprised three castles built around hills situated around Vilnia River. The Upper Castle was built at the top of one of the hills – contemporary known as Gediminas hill – while the Lower Castle was nestled against the same hill. The nearby hill supported the wooden Crooked Castle located at the right bank of the eastern bed of the Vilnia River, which survived until 1390. This complex of castles was under active construction between the 2nd half of the 13th – beginning of the 14th c. (*Vilniaus...* 2003, 11; Kitkauskas 2009, 51; Pukienė 2009, 88-89; Pukienė, Ožalas 2011, 150-153). The year 1323, when, supposedly, Grand Duke Gediminas (1316-1341) moved the capital of Lithuania to Vilnius, should be considered the outset of prosperity of the city. Subsequently, the palace of the Grand Duke of Lithuania, then of the Bishop of Vilnius, the Cathedral, the first Lithuanian school, the dwellings of the Chapter members and noblemen were situated in the lower part of the castle, in the Lower Castle, protected

by the rivers, walls and towers. The storage of weaponry, the arsenal, and the mews were also located on the castle grounds. The castle was a kind of a separate city, the centre of the political, economic, cultural life of the Grand Duchy of Lithuania (hereinafter the GDL). In the course of the battles in the 2nd half of the 17th c. most of the castle buildings burned down and were eventually demolished (*Lietuvos...* 2010, 11-14).

Due to its rich history and significance the area of the Lower Castle of Vilnius (hereinafter the LCV) has been under constant exploration since 1988 yielding abundance of findings. Owing to the wide chronology and beneficial natural environment, the archaeological complex is a rare and very important site for the research of cultural and natural development. The layers of the castle of the 14th-15th c. are rich in unique materials and have served as a significant complement to the span of knowledge of the personal armament, in particular the armour of warriors of Lithuania and entire Europe of those times. The archaeological materials from the excavations of the LCV and the Royal Palace provide a preliminary image of the armour used in the GDL over the entire period of existence of the castle and of the Royal Palace. As a result, extremely broad variety of the armour elements discovered underlines the impressive cultural period and its archaeological footprint

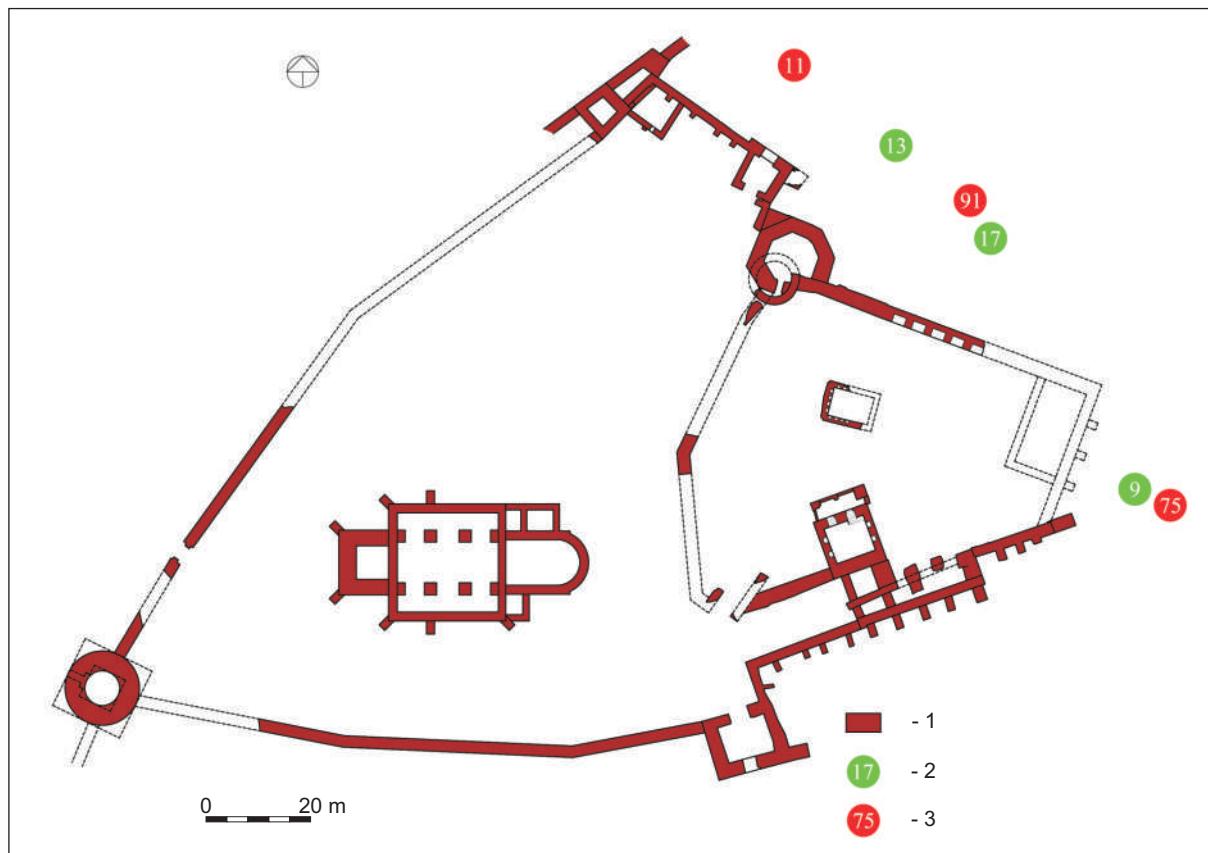


Fig. 1. Vilnius Lower Castle. Findings of the lamellar armour: 1 – castle in the 14th c.; 2 – single plate; 3 – groups of plates. Drawing by R. Abramauskienė.

Ryc. 1. Dolny Zamek w Wilnie. Miejsca odkrycia elementów pancerzy lamelkowych: 1 – zamek w XIV w.; 2 – pojedyncze zbrojniki; 3 – liczniejsze znaleziska zbrojników. Ryc. R. Abramauskienė.

formed over a long and intensive period of existence of the castle and of the Royal Palace. The archaeological materials from the LCV enable distinguishing three types of the armour made of small metal plates, namely the lamellar armour, the scale armour and the brigantine (Bugys 2011; Бугис 2013). Over time, certain types replaced others or coexisted side by side. In addition, some types of armour may be divided into subtypes. Some of these are unique and have no analogues in the neighbouring or even far away countries. The purpose of this article is to dwell exclusively on the first armour type which is found in large quantities in the cultural layers of the Lower Castle dated to the 14th-15th c. (Fig. 1).

The first element of the lamellar armour was discovered on the castle grounds during the archaeological excavations of the Upper Castle as early as in 1940.¹ To tell the truth, at that time the narrow plate was not identified as an element of the armour. In the same year the monograph of B. Thordeman dedicated to the armour of the

warriors of the Visby mass grave, was published (Thordeman 1939; 1940). Only after some time, this work and iconographic sources of the site gave start to the identification of this armour type in the archaeological materials from Vilnius. The plate from the Upper Castle is not unique. It may be identified as one of the elements of the “narrow ordinary” lamellar armour which comprise the bulk of the armour. In terms of the shape, the size and the number of the holes it resembles some of the previously described plates and is analogous to the majority of the lamellar elements discovered in Rus.

Larger quantity of armour plates was discovered in 1997 during the exploration of the area by the south-eastern corner of the Royal Palace (Steponavičienė 1998, 200). Before the study of this considerably large set, some nuances of fastening together the lamellar armour plates and the sequence thereof require explanation. The plates of this type of armour are known to be fastened together by means of lacing the rows of

¹ Research material of Helena and Włodzimierz Hołubowicz preserved at the National Museum of Lithuania.



Fig. 2. Lateral interlinked narrow plates. Photo by V. Abramauskas.

Ryc. 2. Boczne, złączone ze sobą, wąskie zbrojnikи. Fot. V. Abramauskas.

plates. Till now, the differences and lack of clarity as to the ways of fastening the plates together aggravate the identification of their lacing sequence in the process of the armour production. It is not clear which was the first, either lacing of the rows of plates which were afterwards fastened to each other horizontally, or fastening of a single plate at the same time to the horizontal row and to the upper or lower plates that had already been fastened together. Leaving aside these structural issues, attention should be given to the beginning and the end of the rows of plates. The set of the Novgorod lamellar plates (a fragment of the armour) is composed of two bands of narrow plates with large plates at the ends of the rows, which are a kind of finish (Арциховский 1956, 34, Fig. 16; Колчин 1956, 70). Armour No. 25 from the Visby mass grave also has similar lateral plates (Thordeman 1940, Figs. 142-143). Although they are different in terms of shape and size, if compared with the Novgorod lateral elements, yet, considering the position of the holes, they were similar by both, the function and the way of fastening. It may thus be noted that regardless of explicit differences between lacing of the plates of those two armour sets, the rows were finished in a similar way. Three such plates (Fig. 2:a-c) were also discovered during the above-mentioned research in Vilnius. The first two have rounded outer corners, while the third is almost rectangular. It should be noted that the last lateral plate was discovered in the same

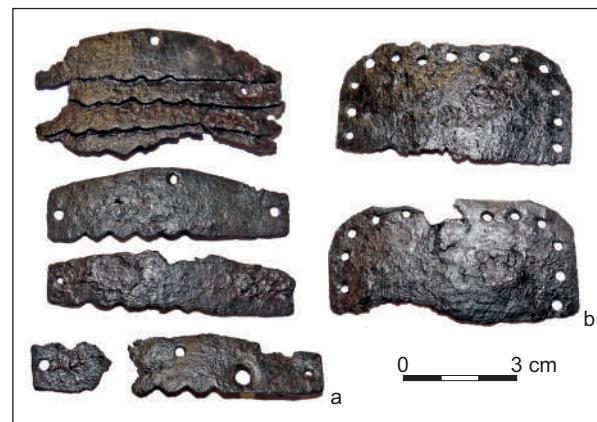


Fig. 3. Lateral plates (b) and narrow plates with a jagged edge (a). Photo by V. Abramauskas.

Ryc. 3. Boczne zbrojnikи (b) i wąskie zbrojnikи z ząbkowaną krawędzią (a). Fot. V. Abramauskas.

area, but separately from the first two ones. Namely, the rectangular plate was discovered together with another set of lamellar elements. As may be seen, the narrow plates discovered next to the lateral plates are similar, thus it may not be argued that two sets of the armour elements belonged to two different lamellar armours. However, considering the bend of these plates, their compatibility raises some doubts, although the length variation is not great (71 mm of the first two plates, 70 mm of the third one). Interestingly, the width difference of the first two is 6 mm. Although this variation of the plate width has no significant impact on the production of the lamellar armour by means of lacing, the production is seen rather as adapting to the lacing system than keeping to the uniform matrix (i.e. if the lacing method demanded the correction of the element's length due to the position of the holes, the width of the neighbouring plates or the client's body shape).

The study of the lamellar lacing system is greatly facilitated by the discovery of a few interlinked plates. Namely, one of the described plates was discovered interlinked with two narrow plates (Fig. 2:b). As can be seen, the inner side of the lateral plate is covered by the narrow plate on the outside, which in turn is covered by an analogous plate. Thus, unlike in the lamellar set from Novgorod or in the armour no. 25 from Visby, the lateral plate is covered by the narrow plate. Its covered side has a lacing hole which supposedly confirms this fastening system. As illustrated by the example of the above-described plate, both, the wider and the lateral plate may cover or be covered by neighbouring plates on one or the other side. The further study of other sets of plates from the LCV shows some variation in the form, the

protuberance, the number of the holes or the position of the lamellar plates, which, in addition to enabling the response to some questions on the lamellar evolution and structure, makes the puzzle related to this type of armour, which has already been complicated enough, even more complex. The analysis of these interlinked plates brings into focus the ornament of spots on the narrow lamellae. More similarly decorated elements were found on other fragments of individual plates and on the interlinked elements. Due to the process of corrosion, at the time of their discovery these plates were arranged on top of each other, which is not surprising as such plates usually overlapped to enhance the durability of the armour. The fragments of other interlinked armour plates are decorated with the same pattern. One of the fragments (Fig. 2:f) is composed of two ornamented with small spots plates placed side by side and the ordinary narrow plates without ornaments are fastened to the ornamented elements. This would supposedly confirm to an even greater extent the decorative function of the row of dots, because the insertion of ordinary elements of the armour presumably points at the existence of some common ornament of a lamellar cuirass made of the plates positioned in different places. The analysis of the interlinked plates of the same set almost universally brings into focus the rule of double overlapping of the neighbouring plate. Regardless of the displacement of the plates to one or the other side in some places, the general trend remains the same: a narrow plate overlaps the next plate exactly by half. It should be noted that the system of plates overlapping by half is valid only for the narrow ordinary plates, regardless of their ornamentation or the number of the fastening holes, which may vary from one to two or, rarely, to three holes in the sides. The number of holes in the sides of a respective plate may not be the same. There are plates with one hole in one side and two holes in the other, or with a single hole each. The studied assemblage showed the most frequent occurrence of the plates – each side with two holes or with a single hole. Also, the narrow lamellar plates most frequently have a single hole in the centre, hidden by the overlapping plate. For analysis of the number and the position of the holes in the lamellar armour, it should be noted that the position of the holes in a plate is directly associated with the method of fastening and with the position of the nearby plates (to the left, to the right, above and below), as well as the number and the position

of the holes. The holes in the lamellar plates may provide a considerably greater amount of information than it seems at first glance. Proper analysis of the number and the position of the holes may theoretically disclose the method of fastening the plates of this type of armour, which may be a very important factor for the identification of the spread and the development of the lamellar variations, possibly including the revision of the chronology. The method of the plate fastening as such may also pose a number of questions that may not be limited to the issues of the lacing methods. The armour plates that only have the holes are most frequently attributed by researchers to the lamellar type (excluding some eastern variations of the scale armour or later plated mail – Pl. – “bechter”; Ru. – “бечтер” plates which are fastened by means of iron rings inserted through the holes). Yet, this established opinion may be somewhat erroneous. The lacing method of lamellar plates still proposed by B. Thordeman for this type of armour from the mass grave of Visby (Thordeman 1939, 218, Fig. 199) was chosen as an example of lacing of similar narrow and lateral plates from the Eastern Slavic lands. Nevertheless, some of the narrow lamellar plates discovered on the Eastern Slavic territories or in Lithuania, regardless of their resemblance to the elements of the Visby armour no. 25, appear to be much narrower. The study of lamellar plates included cooperation with various groups of the reenactors of the living history and experimental archaeologists that are involved in the armour production. The armour produced in the attempts to recreate the lamellar armour made of narrow plates lacked the strength. The plates would get distorted and would withstand shocks poorly. It might be explained by the incompetence of the experimenters in charge of the armour recreation, but the frequency of such observations gives an impression that something is missing for the correct reconstruction. The fastening of the rows of plates most likely requires an additional element which could very well be leather. Starting with the reference to the earliest sources which depicted the lamellar armour (e. g., the sculpture of Mars of Todi² or the Divine Triad of Palmyra)³ and ending with the iconographic representations of the Ruthenians, the lacing of the plates of this type of armour may be noted as not visible. It is covered by continuous horizontal lines which could be the material reinforcing the sides of the plate rows. The reconstructed armour made in this way is highly resistant to intensive wear and blows.

² The Gregorian Etruscan Museum, cat. 13886.

³ The Louvre Museum, AO 19801.

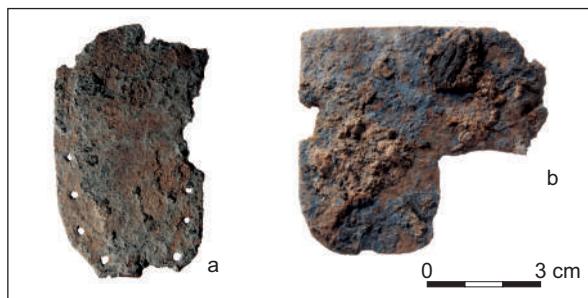


Fig. 4. L-shaped lateral plates. Photo by V. Abramauskas.

Ryc. 4. L-kształtne boczne zbrojnikie. Fot. V. Abramauskas.

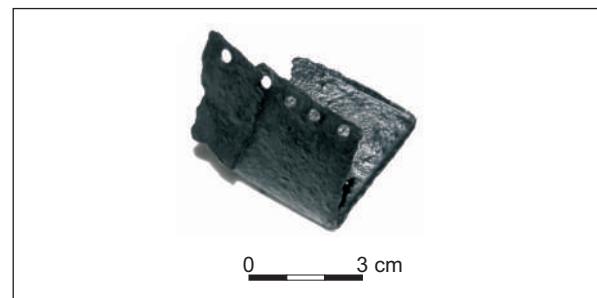


Fig. 5. Riveted wide connecting plates. Photo by V. Abramauskas.

Ryc. 5. Znitowane pośrednie szerokie zbrojnikie. Fot. V. Abramauskas.

Thus, at the beginning of the armour production, lamellar plates were probably laced into one row, which was then laced to the upper and lower rows as a separate and stable fragment of the armour. This method of fastening lamellar rows enables a different approach to and understanding of the depicted long eastern robes. It points at an explicit role of the bands as both, an integral and an independent element of the armour. A very interesting matter, for some reason forgotten by researchers, is mentioned in the article from 1956 dedicated to archaeological excavations in Novgorod. In his description of the above-mentioned fragment of the armour, Russian archaeologist B. Kolchin says that it was discovered on a leather base (?) (*на кожаном фартуке*) (Колчин 1956, 70). This statement enables a different understanding of the structure and even of the development of this type of the armour. It is universally known and common to have the lamellar armour plates fastened together by means of leather straps/strings. In most cases the rows of plates could have been additionally reinforced by means of additional leather strap bent on both sides. In the case of Novgorod, the situation with the armour type identification is a little bit different, since the leather base is not a typical element of the lamellar armour. It is highly probable that such plates were simply stitched to the leather base. However, in this case they should rather be studied as the scale armour and not the lamellar one. Yet, the same method of lacing may apply regardless of whether the leather base is available or not. Thus, attributing these armour elements to the scale armour would not be correct. Further archaeological research will hopefully provide more data on the fastening system of this type of lamellar plates which would facilitate better understanding of the lamellar armour development and the ways of its outspread, i.e. it would enable the understanding whether local variations emerged under the impact of the outspread

vectors of older armour of this type or developed independently and thus acquired peculiar attributes.

Study of the position of the fastening holes in the plates requires pointing at irregularities of some elements. Some narrow plates have one hole made on the side of each plate, while others have two vertical or horizontal holes. Such positioning should have been caused by the lacing method, the number of plates, as well as by the positioning of those plates and of the neighbouring elements (on all four sides). A closer examination of the size and shape of the holes and the peculiarities of metal bent around the opening brings evidence of a later hammering of such holes in some plates. Most likely those are the auxiliary openings which were made during the fastening. If compared to the majority of ordinary holes in the plates of the armour, the latter are somewhat larger, sometimes of a slightly different shape from the holes in the nearby plates and have slightly deformed (curved) edges. All this is the evidence of their later hammering by means of a different tool and method in comparison to others. Those holes were most probably simply chiselled in the lamellar plates in a rough way. The chiselling of additional holes may point at their multiple use, and the issues of the fastening (lacing) of the plates which emerged in the process of the armour production. The probability of the recycling of the plates does not undermine the chronology of the cultural layer, namely, the end of the 14th and the beginning of the 15th c., as this period of the armour getting considerably heavier and being under continuous improvement started turning the lamellar into a kind of anachronism. The wide connecting plate has the most interesting hole (Fig. 2:c). Its diameter reaches even 5 mm and the edges are slightly deformed, while the hole is positioned almost in the centre of the plate instead of the side. This opening most likely appeared in the process of riveting the armour element to some base (probably made of leather).



Fig. 6. Lateral plate (a), ornamented lateral semicircle-shaped plate (b) and wide connecting plate with a rivet (c). Photo by V. Abramauskas.

Ryc. 6. Boczny zbrojnik (a), zdobiony boczny, zaokrąglony zbrojnik (b) i szeroki pośredni zbrojnik z nitem (c). Fot. V. Abramauskas.

In 2002 some lamellae were also discovered during the exploration of the northern part of the Royal Palace in a layer dated to the 2nd half of the 14th and the beginning of the 15th c. (Juškaitis, Kurila, Rackevičius 2003, 94-95). Two of them are lateral and have two rounded corners (Fig. 3:b). These elements are almost analogous to the above-described lateral plates in terms of their shape and positioning of the holes. However, the wide inner side slightly crumbled off due to corrosion, thus the presence of the central hole is hard to confirm. On the basis of the comparison of these plates to the lateral elements from the Eastern Slavic lands we may presume that a larger number of these holes may be missing. It may thus be stated that their fastening method was different from that of the former in terms of the direction of overlapping. The lateral plate covered the nearby connecting element with the wide side. Thus, the direction of overlapping of the lamellar band was from the side to the centre. The plates could have been fastened in an analogous manner from the other side to the centre. Otherwise, armour elements in the band could have been fastened from one side to the other in one direction and thus covered the lateral plate which had the central hole and was positioned on the other side (as e.g., Fig. 2:a). One smaller set of lamellar elements comprising nine separate and two interlinked plate fragments was discovered in the same layer as the aforementioned lateral plates, close to them.

All elements were the narrow connecting plates. The most interesting feature distinguishing them from the previously discovered lamellar armour plates is the scalloped design of the overlapping edge which is characteristic of all elements in this set. Thus, a bold statement may be made that originally they could have belonged to the same armour. The overlapping of the fragment (Fig. 3:a) made of four plates is analogous to that of the ordinary narrow plates. The scalloped edge probably had a decorative function, because in terms of all other attributes these elements are no different from the narrow non-scalloped plates. The plates show the variation in length from 68 to 70 mm and the in width from 16 to 18 mm. The scalloped edge of the plates had to cover the plate underneath thus forming the ornament. The lamellar armour of such subtype may also be found in iconography. Scalloped plates are depicted on a silver cup dated to the 6th c. and preserved in the Hermitage Museum in Saint Petersburg. It has the engraving of Sassanid warriors wearing the knee-length armour made of profiled plates (Thordeman 1939, 268, Fig. 257). However, it is the armour depicted as worn by St. Theodore (Феодор) Stratelates in the Evangel of Theodore (Добровольская, Гнедовский 1981, 24, fig. 5) dated to the 1st half of the 14th c. that seems to be the most similar to the scalloped lamellar elements discovered in the territory of the Vilnius castles. Just like the described elements they have additional holes with a little bit larger diameter while their sides are slightly bent along the hammering direction. Interestingly, most of the plates have single holes in the narrow ends, while the additional holes are pierced vertically, at different distances from the first holes. As a rule, the additional holes should be made as close as possible to the prior ones, which is why it is hard to say whether the greater than usual distance is due to the inaccuracy of the master or, because of a considerably larger diameter of these holes (about 4-5 mm) in comparison to the ordinary ones, or if it is the evidence of the riveting of the plate. Thus, it may only be stated that the additional holes were used for additional lacing during the repairs of the lamellar armour.

Unique form of lamella was discovered on the territory of the LCV in 2002 (Ožalas 2003, 225). The element of the unusual shape (Fig. 4:a), resembling the unnaturally narrow and long lateral plate, was originally a little bit different. Sometime later, a similar, but almost undamaged plate was discovered nearby (Fig. 4:b) and the possible shape of the first object came to light. It was an L-shaped plate previously unknown to science. According

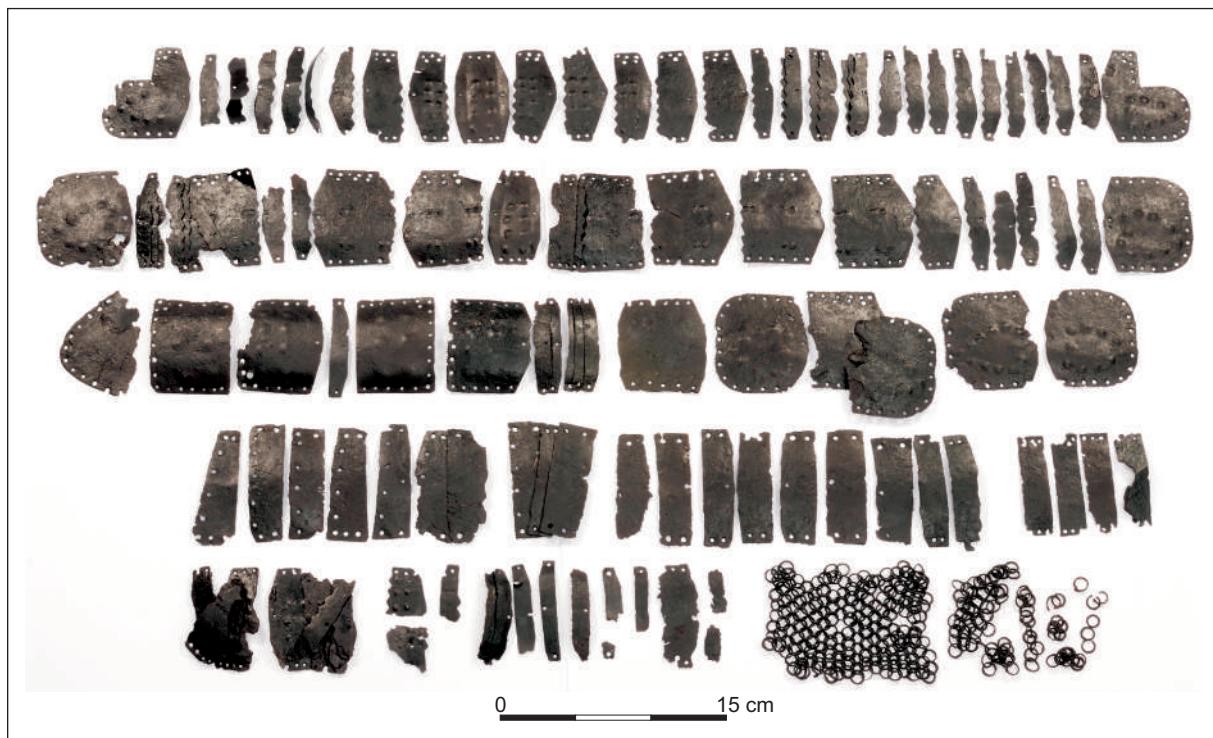


Fig. 7. Set of lamellar plates. Photo by V. Abramauskas.

Ryc. 7. Zbiór zbrojników pancerza lamelkowego. Fot. V. Abramauskas.

to the assumed method of lamellar lacing it may be stated that the lower part of these plates was longer (i.e. with a protrusion). Thus, presumably the shape of these specific reference plates was specially fitted to cover that part of the armour which had to secure the greatest freedom of movement; the cut in the plates was made to facilitate the movement of the arm, while the plate was positioned under the armpit. The aforementioned unique plates are thus probably the lateral plates of the left upper part of the chest. By the way, the lateral side of the second unique element has an ornament of small dots, reminding the overlapping side of the narrow plates discovered in 1997.

In the same area two wide connecting plates were discovered next to each other, one of which is composed of two elements (*ibid.*, 259). Corrosion is not the only reason for the latter plate being stuck to the nearby plate. The interlinked elements are fastened by means of a rivet (Fig. 5). The rivet in the plate was most likely nailed in to connect those two lamellar plates together rather than to attach the plates to the base (or, at least, not only for that purpose).

One more lateral plate with two rounded corners was discovered (Fig. 6:a) (*ibid.*, 260), together with the denarii of Jogaila (pol. – Władysław Jagiełło), during the exploration of the same area. The plate has no central hole

which shows that it was the last overlapping plate of the lamellar row. The other feature distinguishing this plate from similar lateral plates is the number of the fastening holes. The upper and the lower sides have only three holes each, thus it may be stated that this element was not fastened around the entire perimeter. This shows that the rounded end of the plate did not have to tightly fit the body of the warrior or the plate could have been pressed down by the upper and the lower rows. An interesting conclusion concerning the position of such plates in the armour was made by O. Makushnikov and Y. Lupinenko. In their opinion, the plates of that shape may have been fastened mostly as the bordering elements of the lamellar armour (Макушников, Лупиненко 2004, 213-225; Лупиненко, Макушников 2008, 140-154), laced both to the end of the plate rows and perpendicularly to the plate rows.

Numerous elements of the lamellar armour were discovered during the excavations of the exterior of the north-eastern part of the Royal Palace (Blaževičius, Bugys 2012). The assemblage is exceptional because of its size and the wide variety of the plates. It includes one object of great interest. The wide connecting element (Fig. 6:c) (*ibid.*, 212), in addition to its characteristic shape and positioning of the holes, has a rivet hammered into the straight overlapping side which is a unique



Fig. 8. Part of the set of lamellar armour elements *in situ*. Photo by V. Abramauskas.

Ryc. 8. Część zestawu elementów pancerza lamelkowego *in situ*. Fot. V. Abramauskas.

feature for the studied type of armour. On the same side, next to the rivet, there is a hole of 4 mm in diameter. It is larger than ordinary lacing holes and fits the cross-section of the rivet, thus, almost undoubtedly, the overlapping side of this plate originally had two rivets. Surely, this calls into question whether this side of the plate was designed to cover the nearby plate. The case may be that the element under analysis, just like the aforementioned plates with larger holes in atypical places and the two plates joined by the rivet, were fastened to some base. The described element from the exterior of the Royal Castle may not be called the “wide connecting” plate because its straight side is unfit to cover the adjacent plate and it was probably intended to play the role of the lateral plate. However, the shape and the positioning of the lacing holes show that it was made as a connecting plate and may have been used later as the lateral plate, which is the evidence for the above-mentioned recycling of the lamellar plates. In the same area, deeper than the above-described plate, another impressive and unique plate was discovered (Fig. 6:b). It resembles a semicircle with a metal band with fastening for lace, which is very much like the narrow side of the narrow connecting plates. The plate is ornamented in the centre with two embossed hemispheres with two rows of punctures on the outside. There are another two rows of specks along the semi-circular edge, larger on the outside and smaller on the inside. One end of the plate is broken off at the inner row of the fastening holes, which makes impossible to determine the original length of the element. However, the position of those partly visible holes enables a guess that this side of the plate was

shorter than the other and possibly without any additional band for the holes. By the way, to begin the analysis of the plates decorated with embossed hemispheres it should be noted that in 2004 the experimental archaeological laboratory of Novosibirsk University carried out the project of evaluating the vulnerability of various types of armour. The impacts of the different strength and the use of the variety of weapons demonstrated that the armour with the hemispherical protuberances embossed on their elements ensured more efficient protection from injury. Due to the shape of those protuberant elements the armours could withstand the shock better than the one without them (Петренко, Петренко 2004, 110-111).

The largest number of lamellae (80 individual and 11 stuck together in pairs or rows) was discovered in 2007 during the exploration of the exterior of the north-eastern part of the Royal Palace (Blaževičius, Bugys 2012, 241-249). It was the first discovery of that size in Lithuania (Fig. 7). The armour elements under study were found scattered over a small area (Fig. 8), and some of them were stuck together owing to corrosion. Some combinations of the interlinked plates show the original pattern of the armour elements while other combinations are random. The lamellar elements from this findspot are quite different and may give insight into a number of lamellar subtypes and versions. Some plates have ornament, and some have not, others are rough, simpler products and have no ornament. The analysis of their lacing method shows that it had to be the same for all the elements. It is known, however, that in some cases the lamellar armour was made from other types of plates, which is why it is difficult to determine the type when only a single plate is found (Жуков 2003, 84).

Getting back to the analysis of the above-mentioned assemblage, the first thing to notice is that some armour elements are almost analogous to those discovered in the previous years during the research of the territory of Vilnius castles (Steponavičienė 1998, 200; Juškaitis, Kurila, Rackevičius 2003, 389; Ožalas 2003, 225, 262). The narrow plates and the wider lateral plates are of almost identical shape, but upon closer examination, unique attributes are noticeable, such as ornamental details.

For the purpose of preserving the positioning of the plates, the decision was made to keep together the sets of four stuck rows which could have been dismantled at least partially. The rest of the plates were individual or stuck accidentally. Thus the analysis of all armour elements discovered outside the north-eastern part of the Royal Palace

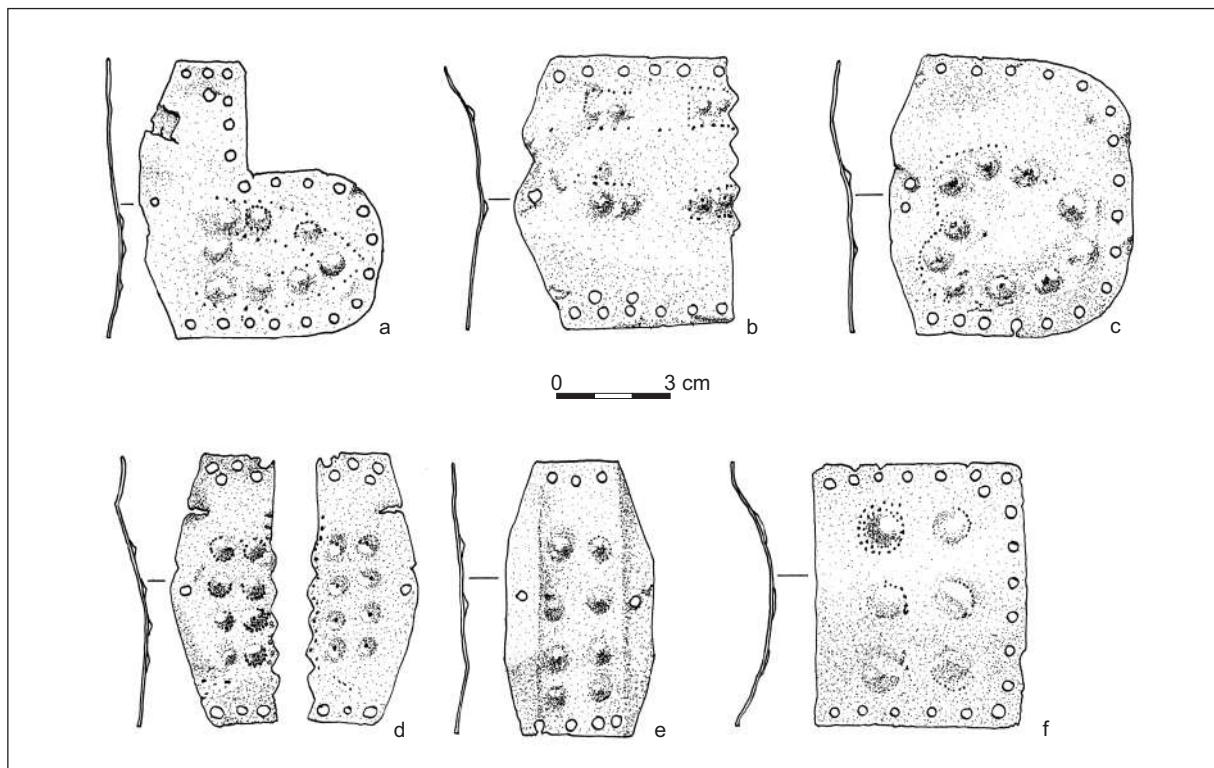


Fig. 9. Ornamented lamellar plates. Drawing by M. Mieliauskas.

Ryc. 9. Zdobione zbrojniki pancerza lamelkowego. Ryc. M. Mieliauskas.

should start with the lateral plates with rounded sides (Fig. 9:c), six which were discovered in this area, and one of them was stuck to one of the ordinary wider plates designed for the unbending part of the armour. All rounded lateral plates are well preserved and are undamaged or slightly damaged, and their size is almost the same (65 x 71 mm). All plates have a protuberant heart-shaped ornament rotated by 90 degrees (i.e. a heart lying on the side). The ornament is composed of 10 hemispheres embossed from the flip-side. In addition, each hemisphere is surrounded by a row of spots embossed on the upside. A dense row of spots inside and outside the heart serves to highlight the shape of the ornament. These rows were embossed on the upside. The identification of the side of the armour (left or right) by fastening of the lateral plates requires the search for similar plates each with two rows of holes above those discovered in the same findspot. Some plates, somewhat wider than the narrow plates (from 27 to 32 mm wide), with a similar ornament of embossed semicircles and a scalloped edge (Fig. 9:d) were also discovered. These lamellar elements have an embossed ornament of eight protuberant hemispheres each with an embossed row of spots on the outside, as well an engraved dense row of punctures along the entire scalloped edge. The ornament of protuberant

hemispheres on lamellar elements starts at the bottom and extends in the direction of the upper edge. This forms basis for a presumption that the ornament of the rounded lateral elements will also be positioned in the lower part. Altogether it appears that we have three right and three left elements. Thus it may be stated that three pairs of ornamented lateral plates with rounded ends are available.

The set under description includes also two very interesting armour elements, which because of the shape may be defined as the L-shape plates (Fig. 9:a, 10:a). These plates correspond with the above-described six lateral plates in terms of similarities of their shape and the style of the ornament. At first glance this ornament resembles the heart ornament on the lateral plates, but a closer observation reveals a triangle formed of eight hemispheres and rows of punctures engraved on the inside. Such ornament might have been chosen because the smaller surface was not sufficient for the execution of the hearts. Identical technique of ornamentation allows no doubt that this is the work of the same master. These plates could likely cover the part of the armour under the armpit.

Rectangular plates, as one more variation of lateral armour plates, appear among the plates

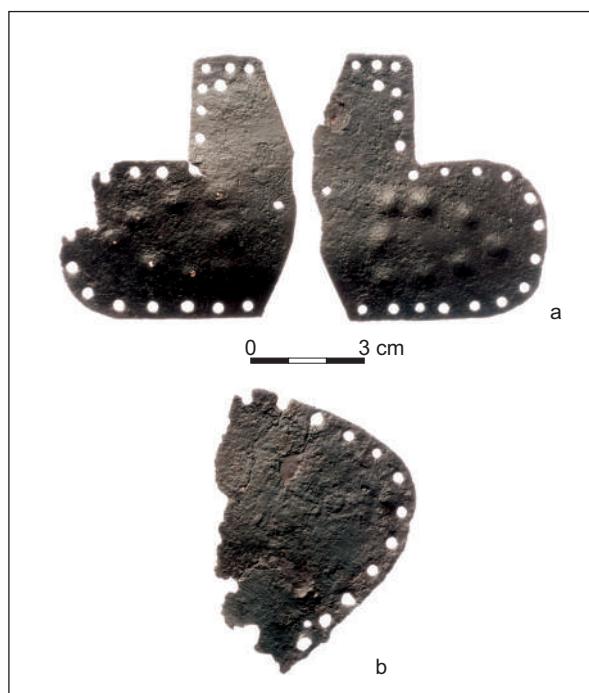


Fig. 10. L-shaped lateral plates (a) and undefined lateral plate (b). Photo by V. Abramauskas.

Ryc. 10. L-kształtne boczne zbrojnik (a) i nieokreślony boczny zbrojnik (b). Fot. V. Abramauskas.

discovered in this location. One of the plates of this type was already discovered during the archaeological excavations in 1997 (Steponavičienė 1998, 252). However, the elements unearthed in this area are different from the 1997 specimen in terms of ornamentation which, in the case of the former, is somewhat similar to the above described decor of the plates with rounded ends. Altogether, four units of rectangular ornamented lateral plates were discovered in this area (Fig. 9:f). In addition to the size (55 x 57 mm) and shape they have identical ornament of six protuberant hemispheres. The diameter of these hemispheres is larger than on the above described plates, but these variations of the ornament seem to be linked by the rows of engraved punctures surrounding the protuberant hemispheres, only in this case two rows of punctures surround the hemispheres.

Octagonal ornamented lamellae stand out in the assemblage of the lamellar plates analysed above (Fig. 9:e). A similar plate is also visible in another assemblage of plates (Fig. 11). The ornament on these plates corresponds to the ornament of the above-mentioned lateral plates with rounded corners and of the L-shaped elements. This is the same ornament of protuberant hemispheres surrounded by spots, thus it would be correct to relate the octagonal plates with the

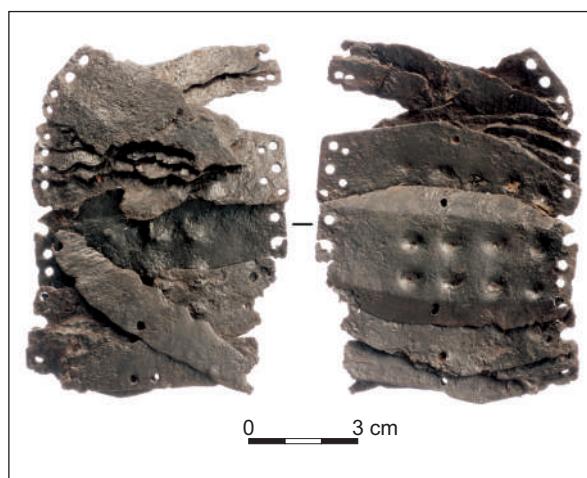


Fig. 11. Cluster of stuck together plates. Photo by V. Abramauskas.

Ryc. 11. Zestaw zespółonych ze sobą zbrojników. Fot. V. Abramauskas.

above. The main distinctive feature of these octagonal plates is the concavity of the profile in mid-height. These attributes together with the holes in the centre of the bent parts show that other elements had to be fastened to such plates on both sides. Thus these plates are elements of the central lamellar band. However, no analogous specimens were found, even in the Eastern Slavic lands where the central plates were found in large quantities. Central plates of similar shape were discovered only during the excavations of the famous mass grave at Visby. The complete lamellar armour discovered there has three central plates in the first three lamellar rows from the top and in three lower rows. The central plates of the upper row are placed in the central part of the row, while the three lower central plates are positioned differently. They are fastened close to the ends of the rows and in various places, rather than one above the other (Thordeman 1940, Fig. 145). Such positioning of central plates

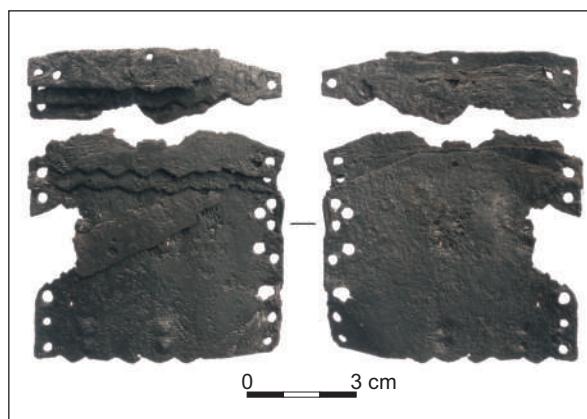


Fig. 12. Cluster of stuck together plates. Photo by V. Abramauskas.

Ryc. 12. Zestaw zespółonych ze sobą zbrojników. Fot. V. Abramauskas.



Fig. 13. Rectangular plates. Photo by V. Abramauskas.

Ryc. 13. Prostokątne zbrojniaki. Fot. V. Abramauskas.

has no functional purpose since in this place of the armour there is no need for the “transition” made of central plates, thus there is no certainty why these plates are fastened in such a way. Possibly the issue of shortage of the plates was resolved this way. In any case, it is an indication that the plates under analysis could also be used otherwise than in the central part of the armour.

The analysis of the ornamented lamellar plates with protuberant hemispheres would not be complete without the connecting medium plates (Fig. 9:d). Such a plate is probably a part of one of the sets of plates that are stuck together (Fig. 11) next to the central plate. These plates have a scalloped edge and an ornament analogous to that of the central plates. B. Thordeman’s method of plate lacing implies that there are four right plates and one left plate.

Wide, ornamented connecting plates with the scalloped edge (Fig. 9:b) include a very interesting find. Altogether there were eight plates in assemblage, including five left plates and three right plates. In addition to being the only wide connecting plates discovered on the territory of the LCV, these plates stand out because of a different ornament. The ornament of the plates comprises two horizontal rows of protuberant hemispheres (four in a row), while the overlapping side is scalloped. The hemispheres embossed from the inner side are grouped in pairs and surrounded by a rectangle of spots on the outside and surrounding each pair of hemispheres. The sets of stuck plates demonstrate that these decorated plates can be associated with non-ornamented narrow ordinary plates by the scalloped overlapping edge. However, one set of plates (Fig. 12) has a stuck element

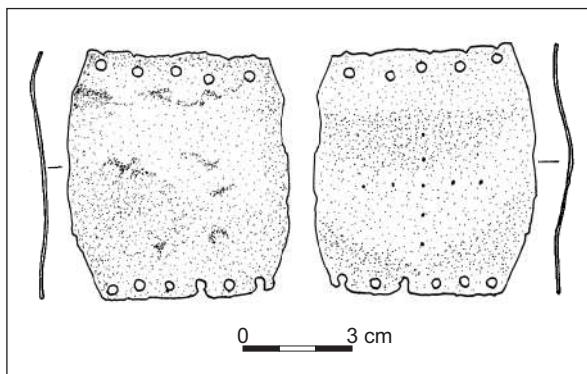


Fig. 14. Undefined plate with an equilateral cross on the flip-side. Drawing by M. Mieliauskas.

Ryc. 14. Nieokreślony zbrojnik z wyobrażeniem równobocznego krzyża na wewnętrznej powierzchni. Ryc. M. Mieliauskas.

without the scalloped edge, thus the option that these plates were joined with the scalloped-edge plates cannot be excluded.

One more lateral plate of an interesting shape (Fig. 10:b) was discovered on the territory of the LCV. In terms of rounding, this element stands out among all lamellar plates discovered on the grounds of the Vilnius castles. Instead of typically rounded sides, the plate has one, almost pointed, rounded side. The other side of the plate was broken off, which prevents measuring its width and more precise attribution of this plate to any cluster of plates.

The set also includes a cluster of non-ornamented narrow plates with an overlapping scalloped edge. They vary slightly in width, but they are very likely the plates of the similar type, associated with the above-mentioned wide connecting plates.

Two elements with two holes in the centre stand out among all plates with one characteristic hole. One of them is a part of the set of plates which are stuck together (Fig. 11-12). In this case the holes in the plate are rather important attribute. The number of holes in the lamellar armour plates usually varies depending on the lamellar lacing method. The number and positioning of the holes in the central part of a plate is an important factor for identification of the lacing method of the lamellar type under study. Thus, the method of lacing of this element should be similar to that used for armour no. 25 from Visby mass grave.

Another variation of the lamellae are the non-ornamented narrow ordinary plates. Altogether, seven individual, two interlinked and five stuck together plates were discovered in one cluster (Fig. 12). However, only two out of the separate plates are almost undamaged, whereof one is slightly damaged in the centre. Narrow sides of both plates

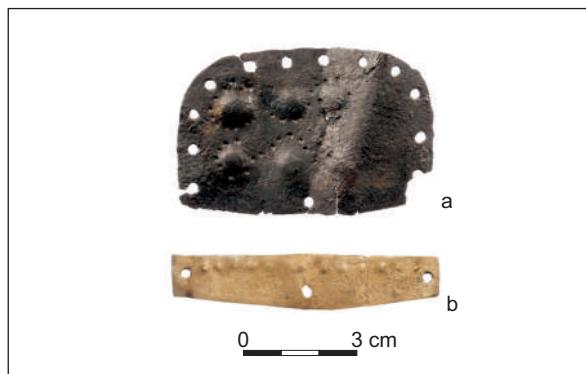


Fig. 15. Gold-plated lateral plate (a) and narrow, copper alloy plate (b). Photo by V. Abramauskas.

Ryc. 15. Platerowany złotem boczny zbrojnik (a) i wąski, miedziany zbrojnik (b). Fot. V. Abramauskas.

are well preserved and each of the sides has only one hole. These are possibly the plates of the lower lamellar row, since this lacing method (based on the number of holes) may hardly apply to fasten intermediate rows.

Lamellar elements of a totally different subtype were discovered together with the above noted plates (Fig 12). These are the rectangular ordinary connecting plates, which have no widening in the central part, characteristic for other plates (Fig. 13). Some plates have only one row of holes on the sides, thus on accidental discovery, such a single plate may at first glance be mistaken for plated mail (Pl. – “bechter”) type of armour plates used in the later period. Lateral plates of this armour type are almost rectangular with a slightly slanting perforated side. Lateral plates of similar shape are also available in Visby armour no. 25 where these plates, in addition to completing lamellar rows, also connect the suspenders of the armour cuirass with the main part of the armour (Thordeman 1940, Fig. 145).

Separate armour elements include also an interesting single plate (Fig. 14). It may be a partially decomposed wide connecting plate. Due to poorly preserved sides of the plate, central holes or the second row of holes in one of the sides are impossible to discern. Two concurrent rows of spots forming an equilateral cross are embossed on the flip-side. The rest of the lamellar plates discovered in the LCV are fragmentary, provide limited information and are mostly the remains of the narrow ordinary plates.

For the completion of the analysis of the lamellar plates from the LCV, two plates unique because of the composition of metal should be discussed. The first plate is a lateral plate with rounded sides (Fig. 15:a). The ornament of these plates looks similar to the ornaments of other

lateral elements with rounded sides in terms of embossed hemispheres. However, a closer look at the ornament reveals that this plate should not be associated with other plates of similar style from the exploration of the exterior of the north-eastern part of the castle. In the case of the two above-mentioned elements the protuberant semicircles are surrounded by a line composed of small spots snaking between the protuberant pattern, instead of the largest spots. In addition to the ornamentation differences, among all lamellar plates known so far, this plate stands out due to the traces of gold coating.⁴ The ornament and the gold coating are the evidence of this plate being a part of some particularly expensive armour which makes this plate distinguished from other lamellar plates of the LCV. On the territory of the Vilnius castles one more plate of the unique composition was discovered. It is a narrow ordinary lamellar element (which has an ornament of a line of punctures, just like described above). This plate is made of the copper alloy (Fig. 15:b). Since it has no analogues either, a guess may only be made that such lamellar elements were inserted between ordinary iron elements to create the image of wealth. The armour full of copper plates is difficult to imagine due to impractical softness and the weight greater than usual. The scarcity and the use exclusively for decoration purposes of such plates are probably confirmed by the uniqueness of this find. Yet, considering even a low probability of finding gold coated or copper lamellar elements, the future armour researchers should look for unidentified armour elements among non-ferrous metal artefacts, and not only the iron ones.

The situation in Vilnius between the 2nd half of the 14th and the 1st half of the 15th c. is known as rather stressful, since the castles were attacked frequently. Even in 1365 crusaders attacked under the command of Grand Master Winrich von Kniprode together with Butautas, a son of Kęstutis, Grand Duke of Lithuania, and set Vilnius on fire (Vygandas Marburgietis 1999, 131). Vilnius was also attacked in 1375, 1377 and 1382. Later on, during the fights between Vytautas and Jogaila, Vilnius was attacked in 1387. As referred to, at that time there was the Lithuanian garrison in the Lower Castle, while the Polish garrison stationed in the Upper Castle (Vijūkas-Kojelavičius 1988, 306). In 1390 Vytautas with Samogitians, crusaders and their guests invaded Vilnius again. After five weeks of the siege the Crooked Castle was burnt down. In 1394 the knights of the Teutonic Order

organised a huge march to Vilnius; the castles suffered, but were not taken (Vygandas Marburgietis 1999, 208). The knights of the Order, under the command of Grand Komtur Wilhelm von Helfenstein together with Švitrigaila attacked Vilnius again in 1402 (Gudavičius 1999, 205) All the above described attacks failed and the castles, excluding the Crooked Castle, were not occupied.

The period of the Grand Duchy of Lithuania under the study has poor iconographic evidence. This huge gap is to a certain extent filled by the data of sigillography. The only source which may give insight into the attributes of lamellar armour is the seal of the Grand Duke of Lithuania Kęstutis of 1379. It depicts a standing warrior with a sword in his right hand and a pavise shield in the left hand. Based on that seal, attempts had already been made to recreate the armour of warriors of that time (Bumblauskas 2007, 84-88). Without going into fine details of this reconstruction, attention should be paid to the representation of the lamellar armour, the subject of this study, in iconography. In the description of Visby's armour no. 25, B. Thordeman provided specifically this seal as one of the examples of iconography and described the depicted armour as lamellar (Thordeman 1939, 270, 272). Namely, such way of depicting the lamellar armour is also known from some sources other than the seal. The armour of this type was depicted in a similar way in both, the earliest and the latest iconographic materials (Кирпичников 1976, 37; Горелик 1987, 166). The iconographic material dated to the middle of the 14th c. includes the seals of Siemowit II and Trojden, the dukes of Masovia. In 1279 Gaudemunda, daughter of the Grand Duke of Lithuania Traidenis married Duke Boleslaw II of Masovia (Gudavičius 1999, 73). The warriors depicted on the seals of Boleslaw II and the sons of Gaudemunda, wear the lamellar armour and hold shields of the same type as on the seal of Kęstutis, while their heads are covered by similar helmets. Amazingly, elements of the lamellar armour dated to the end of the 14th – beginning of the 15th c. were also discovered on the territory of the Vilnius castles. In this case, direct association of archaeological finds (the lamellar plates) with this seal is noticeable. Furthermore, a better look at the armour of the warrior depicted on the seal of Siemowit II discloses a few more peculiarities of the lamellar armour which are also reflected in the archaeological materials of the Vilnius castles. These are the elements with

⁴ Scanning Electron Microscopy (SEM) and Energy Dispersive X-Ray Analysis (EDX) was performed at the Faculty of Chemistry of Vilnius University.

rounded sides from the central and the upper part of the armour, near the sleeves of the vest. In the 14th c. the lamellar armour could be known also to the warriors of the Teutonic Order. In the opinion of A. Nowakowski, a Polish researcher, they could come to Prussia from the Eastern Slavic lands through the mediation of the Balts (Nowakowski 1994, 177). This may be evidenced by eight lamellar plates from the exploration of Altene (Latvia) castle (Graudonis 1983, 67). Almost all of them have analogies among the elements discovered on the territory of the LCV.

Conclusions

The increasing popularity of the lamellar armour is to be associated with a gradually increasing expansion of the GDL to the Eastern Slavic lands. The armour of this type could have been worn by both, Lithuanian and Slavic warriors or in some cases even by the warriors of the Teutonic Order. Subtypes, sets and variants of the plentiful variety of lamellar plates may be distinguished. The plates discovered on the territory of the LCV resemble each other and include some plates analogous to the armour plates discovered on the Eastern Slavic lands.

The analysis of lamellar plates from the territory of Lithuania disclosed the following:

- Lamellar elements may be divided into three subtypes: lateral, central and ordinary;

- Lateral plates may be divided into four variations according to the shape: with a rounded edge, L-shaped, rectangular and narrow rectangular; also, two variations are possible according to the ornament: heart-shaped and protuberant hemispheres;

- Only three central plates were discovered that are alike: octagonal with an ornament of eight protuberant hemispheres;

- Ordinary plates may be divided into five variations according to the shape: ornamented wide plates with a scalloped edge, ornamented plates of average width with a scalloped edge, narrow plates and narrow plates with a scalloped edge and rectangular plates; two variations according to ornaments may be distinguished: small and large with eight protuberant hemispheres;

- The use of the lamellar on the territory of the Vilnius castles may be dated back to the 14th and the beginning of the 15th c.;

- The uniqueness of some armour plates suggests the existence of lamellar variations of the local production.

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STUDIA NAD ZBROJNIKAMI PANCERZA LAMELKOWEGO Z DOLNEGO ZAMKU W WILNIE

Streszczenie

Teren Dolnego Zamku w Wilnie, objęty systematycznymi badaniami od 1988 r., obfituje w zaskakujące znaleziska. XIV- i XV-wieczne warstwy kulturowe zamku bogate są w unikalne zabytki związane z uzbrojeniem, które służą istotnemu uzupełnieniu wiedzy o wyposażeniu militarnym litewskich i europejskich zbrojnych doby średniowiecza. Znaleziska archeologiczne odkryte w trakcie badań Dolnego Zamku, a także Pałacu Królewskiego, pozwoliły na wstępne zaprezentowanie uzbrojenia ochronnego używanego na obszarze Wielkiego Księstwa Litewskiego w całym okresie funkcjonowania warowni. Wśród zbrojników występujących na terenie Dolnego Zamku wyróżniono trzy główne typy odpowiadające pancerzom lamelkowym i łuskowym oraz brygantynie, które wraz z biegiem czasu ewoluują, ale też często współistnieją obok siebie. Celem niniejszego artykułu jest próba wydzielenia zbrojników pancerza lamelkowego, których znaczną liczbę odkryto w nawarstwieniach kulturowych Dolnego Zamku, datowanych na XIV i XV w.

Zbrojniki odkryte na terenie Dolnego Zamku są do siebie bardzo podobne i znajdują się wśród nich zabytki mające analogie wśród płytka pancerzy znanych z terenu Słowiańskiego Wschodniego. Ich analiza, poparta znajomością tego typu zbrojników z terenu Litwy, wskazuje, że:

- zbrojniki pancerza lamelkowego można podzielić na trzy podtypy: boczne, centralne i pozostałe;
- zbrojniki boczne można podzielić dodatkowo na cztery warianty, w zależności od ich kształtu: z zaokrągloną krawędzią, w kształcie litery L, prostokątne i wąskie prostokątne; można też wydzielić dwa warianty w zależności od zdobiącego je ornamentu: w kształcie serca i złożone z wypukłych punktów;
- odkryto jedynie trzy takie same centralne zbrojniki;
- ośmiokątne z ornamentem złożonym z ośmiu wypukłych punktów;
- pozostałe zbrojniki można podzielić na pięć wariantów, w zależności od ich kształtu: zdobione szerokie zbrojnikie z ząbkowaną krawędzią, zdobione średnio szerokie zbrojnikie z ząbkowaną krawędzią, wąskie zbrojnikie i wąskie zbrojnikie z ząbkowaną krawędzią; dwa warianty ze względu na zdobienie można podzielić na małe i duże z ośmioma półkoliście wystającymi punktami;
- używanie pancerza lamelkowego na terenie Wilna można odnieść do XIV i początków XV stulecia.

Wyjątkowość niektórych zbrojników sugeruje istnienie lokalnych warsztatów je wytwarzających.

Tłumaczył Piotr N. Kotowicz