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Report on Archeological research conducted in Janów, Elbląg district, as part of the project "Baltic Odyssey"

Task: search for a cemetery associated with the Truso settlement

Archeological research and geophysical works in Janów were carried out as part of the project "Baltic Odyssey - Creation of common historical and cultural area", co-financed by the Cross-border Cooperation Programme Poland-Russia 2014-2020.

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1. Introduction to the problem of searching for the cemetery

Until 40 years ago, Truso was just a name mentioned in Wulfstan's account. This Anglo-Saxon sailor, and above all a courtier of King Wessex Alfred the Great, made a sea voyage from the Danish port of Hedeby to Truso around 890. From this voyage he wrote an extensive report, in which he described in detail the route to Truso and the customs of the *Aestii* (western Balts, later called Prussians). Next to the Slavs, they were living in the area close to this trading port.

Part of the Wulfstan report was published by Richard Hakluyt (Fig. 1) in the first volume of the monumental work describing the history of sailing and discovery of the English (Hakluyt 1598). Since then, a discussion on the location, nature and chronology of Truso began. The discovery of a port settlement in Janów Pomorski in 1981¹ and, above all, excavations and studies carried out for almost forty years have proved that these are relics of the historic Truso. Who founded Truso, who were its inhabitants and where they came from are the most important questions about this emporium.



Fig. 1. Excerpt from "The Principal Navigations..." of Hakluyt describing Wulfstan's expedition to Truso and the first location of this emporium

¹On the Archaeological Monument Register Card, the settlement is described under the name Komorowo Żuławskie site 1, see Appendix 1.

1.1. Issue of ethnic identity of Truso residents

The discussion on the ethnic identity of Truso residents has a long history. It was mainly discussed before the discovery of this emporium (e.g. Ehrlich 1937; Neugebauer 1937), which is understandable, as well as after the discovery of Truso and publication of a large part of the research results - which may seem surprising. However, it is important to note the lack of the most important element that would allow to unequivocally determine the ethnic identity of the inhabitants of Truso, i.e. the cemetery associated with the emporium. It is worth recalling some of these statements, as they will allow the discussion to be assessed in terms of the main arguments put forward by individual authors².

The first scholar to attempt an ethnic interpretation was Ferdinand Neumann (1854). By identifying the origin of the name "Truso" from the Lithuanian word trusas - work, he pointed to the Balts. Neumann's critic, Augustin Kolberg, also saw the Balts here, associating the name "Truso" with the Lithuanian word truszai – reed (Kolberg 1878, pp. 1-75). Stanisław Mielczarski presented a similar way of deducting when writing: "The settlement of Truso, whose character is not yet well known, must have been a port settlement inhabited by the Prussians, as it was them whom Wulfstan described in the second part of his account" (Mielczarski 1963, p. 11). On the other hand, Henryk Łowmiański did not rule out the existence of a "Scandinavian colony [...] in Elblag or its vicinity – in Družno (Truso) in the 8th-9th c." (Łowmiański 1957, pp. 83-84). This view probably took into account earlier discoveries of Elblag archeologists - Bruno Ehrlich (1937a, pp. 1-17) and Werner Neugebauer (1937, pp. 19-28) at Pole Nowomiejskie in Elblag. In 1936, 35 women's graves with Scandinavian equipment were discovered and examined there. These discoveries, as well as earlier research and publications by the Koenigsberg archeologist Max Ebert (1926) made the issue of the role of the Scandinavians in the creation of Truso one of the main theses discussed to this date.

The full characteristics of the discussion on Truso were given by Edward Carstenn (1911, pp. 37-63); the further research up to 1937 was discussed critically by Bruno Ehrlich (1937a, op. cit.), in the 1960 it was summarized by Polish medievalists, Gerard Labuda (1961,

²The full characteristics of the discussion on Truso were given by Edward Carstenn (1911, pp. 37-63); the further research up to 1937 was discussed critically by Bruno Ehrlich (1937a, pp. 1-17), and in the 1960 it was summarized by Polish medievalists, Gerard Labuda (1961, pp. 7-118) and Stanisław Mielczarski (1963, pp. 3-36), and then, at the beginning of the 21st century, by the author of this report (Jagodziński 2010, pp. 37-46).

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An analysis of archeological sites for the area between the Vistula and Pasłęka rivers, carried out elsewhere, showed that Truso was founded on the borderline of Slavic and Baltic settlements (Jagodziński 1997; same 1998; same 1999).

The main questions to be asked here are:

- what were the relations of the neighboring Prussian and Slavic communities with the Scandinavian founders of Truso?
- who controlled this center?
- what was the involvement of local and supra-regional political authorities in this control? We have limited possibilities of drawing conclusions on these issues, mainly due to the state of research, although examples from other centers of this type (e.g. Birka and Hedeby) indicate that such dependencies had to exist (Callmer 1994, p. 77; Łosiński 2000, p. 123; Urbańczyk 2002, p. 37-47). In order to solve this problem, further archeological research will be crucial, which, in addition to Truso itself, should also cover its facilities and, above all, focus on finding and researching the cemetery associated with it.

1.2. Scandinavian graves in the cemeteries of the Elblag agglomeration

In the early Middle Ages, a new cultural unit – the *Elblag agglomeration* (Jagodziński 2009b, pp. 145-146) – was established in the area covering the Elbląg Upland, the Old Prussian Coast and partly the north-eastern outskirts of the Iławskie Lakeland. One of the most important archeological sites of this agglomeration was the Benkenstein-Freiwalde cemetery (nowadays Elbląg Kamionka-Żytno), which was studied in the first decades of the 20th century. The results of the cemetery's research have never been fully published, and most of the monuments and all research documentation went missing during the Second World War. This makes it impossible to carry out a full analysis of the site in terms of the actual stratigraphic relations between separated burials, characteristic of the different phases of its use. This is an extremely important issue in order to indicate possible chronological continuity of burying the deceased and, therefore, to obtain reliable data for the assessment of the settlement developing here in the period between the 6th and 8th and 9th and 10th century.

Between 1907 and 1912, 61 objects were discovered, most of which were graves, and only a few of which contained solely burnt stones which were identified as fireplaces (Dorr 1914, p. 2-3). During the next three research seasons (1916 – 1918), 46 new objects were discovered, 35 of which were burials, with burnt human bones and grave accessories found inside. The others were considered as furnaces (Ehrlich 1920, pp. 178-179).

Schematic plan of the examined fragment of the cemetery, drawn up by Robert Dorr (1914, p. 24, Plan des Gräberfeldes Benkenstein-Freiwalde)' – Fig. 2), does not contribute much to a proper evaluation of the excavation results obtained. In 1907-1911, only stone pavings were searched for using a metal probe, which probably contributed to the omission of many objects between burials with cobblestones. In this context, Dorr's observation that most of the graves laid in rows and had stone pavings probably does not reflect the full structure of the "trenched" part of the cemetery.

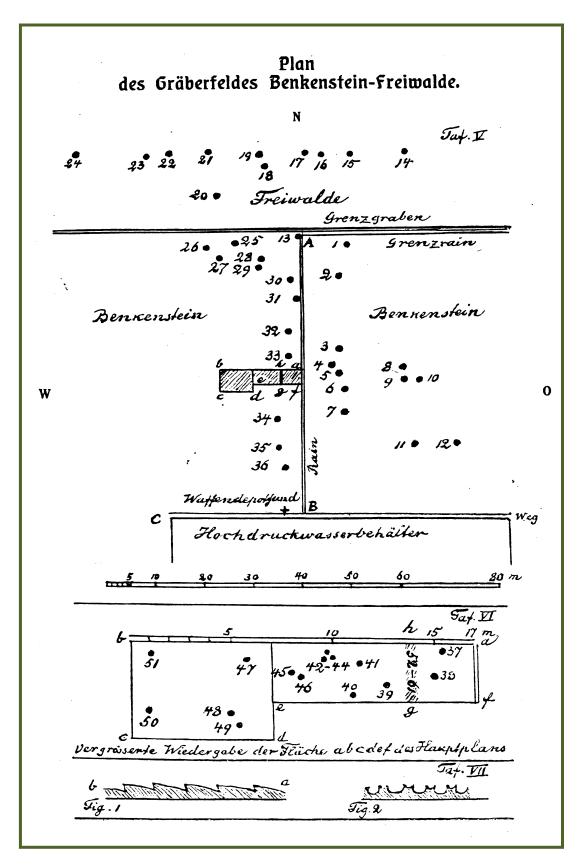


Fig. 2. Plan of the Benkenstein-Freiwalde cemetery (according to R. Dorr, 1914, p. 24)

More revealing in this regard were the excavations of B. Ehrlich, who in 1916 took over the management of research at this cemetery. The research method, which was first applied in 1912 and continued between 1916 and 1918, and tried to be used in 1928 during the last "rescue" research³, consisted of delineating the trenches and exploring them by means of mechanical layers. This made it possible to accurately record all objects in the trenches. The change of research method showed a more complex picture of the cemetery. Analyzing the published research reports, it is easy to notice the differences between the graves that were located in the southern part of the cemetery and the burials discovered in the central and northern parts of the site studied by R. Dorr. In the south, mainly a large number of pit graves without stones at the top layer of the grave were recorded. There are no such objects in the northern and central part of the cemetery, which, of course, was the result of the abovementioned trench method of searching for stone pavings. Thus, only burials with flat stones can be validly subjected to a comparative analysis. Objects of this type discovered in the northern and central part of the site had more compact, rich and multi-layered layouts of stone payings than those studied in the southern part. The stone payings of these burials consisted of 1-2 layers of stones, while those discovered in the northern part consisted of 3-4 layers. R. Dorr and B. Ehrlich noted a large variety of stone paving shapes, among which they distinguished rectangular forms (graves 10, 81), pentagonal forms (grave 14), hexagonal forms (grave 19), circle-like (grave 15) or elliptical forms (graves 17, 68). According to both researchers, greater regularity of stone pavings was characteristic for the older phase of the cemetery, which was also confirmed by the equipment found in them. As an example, we can point out here, among others, vessels discovered in these graves characteristic of phases D and E (6th-7th/8th c.). Parts of the graves were accompanied by horse burials. The horses

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³ In the late summer of 1928 (September 11th), during earthworks on the construction of the second water reservoir in this cemetery, in the part that was examined until 1912, 2 javelin heads were found, 1 single-edged sword in a scabbard decorated with silver fittings and 1 bronze buckle. Notified of this discovery, B. Ehrlich carried out a trenching of the earthwork site on September 12 and 13, 1928 and managed to examine three graves, one of which contained a horse burial (grave 114) – "beneath the crematory human burial, which, as an addition, contained a vessel with a very slender neck, there was a horse skeleton with completely preserved bronze headgear. Unfortunately, no further research was carried out due to the necessity to complete the construction of the tank before the arrival of the first frosts. That is why 60 workers worked day and night in two shifts during this project. The workers were informed about the need to pay attention to the finds, and thanks to the establishment of a finder's reward, it was possible to collect such a number of monuments, which turned out to be richer than all the material obtained during the planned research in the years 1907 - 1918. All the metal objects discovered in this way - bronze clasps, openwork belt fittings and buckles, bronze and iron horse bits, iron swords and javelin heads belong to phase E" - based on: B. Ehrlich 1931, p. 17. It should be added that during the earthworks carried out in this cemetery in 1928, three more swords were discovered whose scabbards were covered with the residues of silver fittings, as B. Ehrlich stated on page 21 of the above-mentioned publication.

were placed in the graves in a semi-reclining position (with their legs bent in the knees); bridle was preserved by the skulls, lined with bronze fittings; bronze or iron horse bits were also present.

The effect of the above-mentioned research method applied by B. Ehrlich was, among others, the discovery of several graves of more regular shapes, the center of which was not covered with flat stones; only rows of stones appeared on the edges of the grave cavities, giving the impression of a fence/framework of the burial. Noteworthy are also the internal structures of the burials. The cremation layers usually did not go beyond the stone pavings; most often they were smaller in size and located in one of the corners of a particular grave pit. This probably proves the more complex "ideological and cultural" form of this type of graves, resulting from the rigors of the funeral rite used at the time.

In a part of the pit graves, wheel-made ceramics, then called "stronghold" ceramics ⁴were found. It was found in the following graves:

- -no. 63, where under the stone paving there was a crematory grave pit with a fragment of "stronghold" ceramics of an older type and a fragment of a glass vessel;
- no. 66, whose equipment consisted of fragments of hand-made and wheel-made vessels and lumps of raw amber;
- -no. 72, where next to burnt human bones, a fragment of a biconical vessel was found, as well as numerous fragments of "stronghold" type vessels, a bronze fish hook and lumps of amber;
- no. 75, where several cremation graves with "stronghold" type ceramics were discovered around a single-layer stone paving (a grave complex or mass grave?);
- no. 80, which was equipped with hand-made ceramics, "stronghold" type ceramics and a fragment of a bronze fish hook;
- no. 96, where fragments of wheel-made ceramics, a small iron knife and a glass bead were found (as per: B. Ehrlich 1920 pp. 178-203).

Wheel-made ceramics were also found in an object described as a $3 \times 0.3 - 0.5$ m pit, filled with black earth saturated with lumps of charcoal, burnt human bones and numerous fragments of "stronghold" ceramics (Dorr 1914, p. 4).

A small part of this ceramics is in the collection of the Museum of Archeology and History in Elblag (Fig. 3; Fig. 4) and thanks to the inventory numbers preserved on the monuments, it was probably identified as equipment of pit graves. This ceramic presents mostly wide-open forms of pots with an "S" profile and high placed largest-diameter point of

⁴This ceramics was identical to the wheel-made ceramics discovered on Prussian strongholds from the 9th and 10th, and especially from the 11th and 12th century.

the body, often decorated with straight lines engraved on the surface of the body and oblique incisions above the same. Later forms have pottery marks on the bottoms and an ornament of wavy lines on the body and strongly profiled outlets – for the most part, it is completely wheel-made ceramics, characteristic of the 9th/10th and 12th century (Jagodziński 1997, p. 285, Table XIII; Ehrlich 1932s. 415-418, Abb. 11; 12; 14).

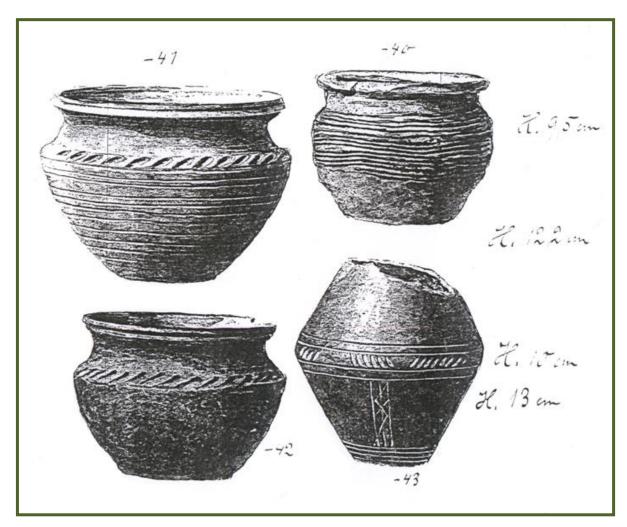


Fig. 3 Clay pots made on a wheel and hand-made from the Benkenstein-Freiwalde cemetery

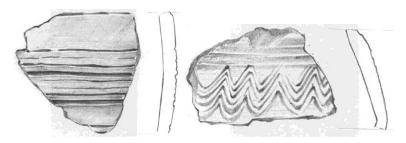


Fig. 4. Fragments of bodies of "stronghold" type vessels (9th - 11th c.) coming from pit graves in the Benkenstein-Freiwalde cemetery - MAH collection in Elbląg

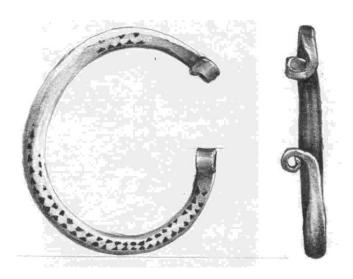


Fig. 5. A Scandinavian horseshoe clasp from the equipment of a pit grave in the Benkenstein-Freiwalde Cemetery – MAH collection in Elblag

In many cases, fragments of hand-made clay vessels and those made on a wheel with wavy ornamental lines (referred to as stronghold or Slavic ceramics) were found in relatively thick and extensive strata of the cemetery, which contained mainly charcoal, ash, burnt human bones, as well as weapons⁵ and ornaments (Fig. 5). They were sometimes referred to as "layered graves". A more convincing view on this issue is that the occurrence of layers of fire residue (*Aschenplätze*) is linked to a change in the funeral ritual. According to this concept, they were created as a result of cremating the dead in the same place within the cemeteries (Odoj 1970, p. 58; Wróblewski 2006, pp. 222, 223, Fig. 1). Such a ritual was probably observed from the 7th / 8th century. The ceramics discovered in the funeral layers indicates that this element of the rite functioned even in the younger early medieval period (9th-12th c.).

The pit graves and funeral layers described above can be considered a concrete, chronologically and culturally clear element of the settlement context of Truso, in the sense of a real economic background. It could have been created by Prussian people living in the area of today's Elblag and burying here their deceased in the period from late 8th to 10th / 11th century, and perhaps also Scandinavian people, partially assimilated to the former. These graves are probably examples of the last, youngest phases of the use of the cemetery, which can probably date back to the 9th -10th and 11th - 12th century, and thus partly also to the times after the fall of Truso. This problem requires further research, especially since in several

⁵Between the graves, in the burning layer, a "deposit" of weapons was found, consisting of an unspecified number of javelin heads and swords.

other cemeteries of the *Elbląg agglomeration*, whose beginnings can be dated at least to the 6th century, burials with wheel-made ceramics were also found. They indicate the existence of younger phases of the use of these cemeteries, similar to those documented for the Elbląg Kamionka-Żytno cemetery (Benkenstein-Freiwalde). Grave objects with wheel-made ceramics, often coexisting with hand-made vessels, were found, among others, in the cemeteries in Podgórze, Braniewo district, Srebrna Góra in Łęcze, Tolkmicko district⁶, Chojnów, Tolkmicko district, Elbląg Modrzewina (Lächrwalde), Elbląg Kępa Północna (Kämmereisandland), Elbląg Zakrzewie (Pangritz Kolonie) and Elbląg Winnica (Weingarten)⁷. This fact clearly contradicts the thesis about the *disappearance* or *the process of abandonment* of Prussian cemeteries in the younger period of the early Middle Ages (Nowakowski 2006 p. 32), but one should agree with the assessment indicating that there was a radical change in the funeral rite at that time.

At the end of the 8th and the beginning of the 9th century there appear, discovered to date only in Elbląg, crematory graves equipped mainly with jewelry, weapons and other objects of Scandinavian origin. From the cemeteries in Elbląg-Kępa Północ (Kämmerei-Sandland) comes, among others, a silver ring decorated with a Scandinavian-type filigree, fragments of bronze scales decorated with a star-shaped six-pointed rosette and a melted scales arm, and, as R. Dorr described it, "two bronze scale weights in the shape of a flattened sphere with embossed wheels on the surface of planes" (R. Dorr 1888-1891, pp. 21-22). According to Dorr's report, only a few cremation graves were saved from this cemetery, the contents of which, apart from the above-mentioned monuments, included burnt human bones mixed with fragments of early medieval ceramics and lumps of charcoal and a fragment of an iron knife blade (R. Dorr 1894, p. 70; cf: B. Ehrlich 1932, pp. 418-419, Abb. 15; M. F. Jagodziński 1997, pp. 56-57, item 118).

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⁶ In this cemetery, directly under the turf, there was a layer of sand mixed with ash, charcoal and a small amount of burnt bones, the thickness of which was determined to be 30-35 cm. Moreover, this layer contained fragments of early medieval ceramics from the **older stronghold period** (*älteren Burgwallzeit*), in R. Dorr's words; these included an amber spindle whorl and two large iron javelin heads with a high middle rib. Below the funeral layer there was a layer of pure sand about 20 cm thick, underneath which there was another layer of burning residues along with crematory human graves and skeletal horse burials. The cemetery probably covered an area of about 2000 m² and could contain as many as 150 graves. According to Dorr's judgment, almost half of them were destroyed: in the northern part as a result of deep ploughing, and in the southern part as a result of digging for road construction sand. When visiting the cemetery in late October 1892, R. Door found a large 84-meter perimeter pit and a pile of horse bones lying on its edge. Also interesting is Dorr's observation about the change in the character of grave accessories – in the northern part of the cemetery he did not notice any crossbow clasps, but disk clasps did occur there (R. Dorr 1898, p. 5-6).

⁷ On the subject of Prussian burials from the 8th - 12th century, see in particular: R. Dorr 1894, pp. 70-71; idem 1914, pp. 11-14; B. Ehrlich 1920, pp. 178-203; M. F. Jagodziński 1997, p. 12, art. no. 6; p. 23, art. no. 34; p. 32, art. no. 57; pp. 55-56, art. no. 116; pp. 56-57, art. no. 118; p. 66, art. no. 147; idem1998, pp. 164-170.

Single specimens of grave equipment of Scandinavian origin, including two heart-shaped belt fittings made of bronze and a fraction of a bronze decorated buckle, were also found at the cemetery in Elblag-Zawada/Pangritz-Colonie (Dorr 1894, p. 70; Ehrlich 1932, p. 419, Abb. 16 a, c.). Another cemetery in Elblag, discovered in the area of the Winnica district (Weingarten, Pulverhaus) was a discovery site of bronze elements of belt decoration – an openwork cover for belt tip, a thong tip⁸ and a plate with a wave-shaped lower edge (Dorr 1894, p. 70-71; Ehrlich 1932, p. 419, Abb. 16, d-f).

In all the above-mentioned cemeteries, in the graves belonging to the younger period of the early Middle Ages, ceramics commonly classified as Slavic type dominate, both handmade (often decorated with wavy lines) and made on a wheel, which has so far been connected with direct Slavic influences. In my opinion, it is more probable that Slavic patterns were transferred to the West Prussian environment through the Scandinavians. In the context of the thesis formulated in this way, the issue related to the initial directions of these interactions may be of fundamental importance for research on the problem of the appearance of Slavic settlements in the area of the Vistula estuary, commonly referred to as the Slavic-Prussian borderland. This would particularly explain the reasons for the earlier appearance of ceramics characteristic of the Slavic circle in the West Prussian environment in the younger phases of the early Middle Ages than it could be documented by the chronology of the appearance of Slavic settlements in the area of the Vistula estuary. The possibility indicated above is, in my opinion, justified by the nature and chronology of the ceramics discovered during the study of the Truso settlement.

The most significant discovery made in the interwar period, which led many European archeologists to discuss the Scandinavian presence in the area of the Vistula estuary, was the early medieval cemetery from Pole Nowomiejskie (Neustädterfeld) in Elbląg. The cemetery is located in the southern part of this district, which borders with Żuławy Wiślane – nowadays it is the area of intersection of Kilińskiego, Skrzydlata and Lotnicza Streets. We do not know the exact number of graves discovered on it, and the latest information published by Werner Neugebauer mentions approximately 50 crematory graves (Neugebauer 1975, p. 18). Some of them (35 graves) were richly decorated Scandinavian women's burials, others Prussian men's burials.

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⁸ These artifacts have fortunately survived and are now in the collection of the Museum of Archeology and History in Elblag.

As far as Prussian graves are concerned, we have the most data for burial number 40a (Neugebauer 1937, p. 20, Taf. II). It was a cremation human grave and an accompanying skeleton burial of a horse. The cremation grave contained an iron *sax* sword (61 cm long), two bronze spurs, two bronze rings, bronze pliers, a whetstone and a small clay vessel decorated with a nail ornament on the edge. The horse's burial contained remnants of bridle in the form of bronze rectangular plates, an iron buckle and an iron bit. The remaining Prussian graves have never been published in their entirety, and only on the basis of short mentions made when discussing Scandinavian complexes it is known that they were probably analogous to graves from cemeteries located in the northern regions of Elbląg, discovered, among others, in the Kamionka-Żytno district (formerly Benkenstein) at Królewiecka Street (Königsberger Str.) and at Moniuszko Street (d. Scharnhorststrasse) – see in particular: R. Dorr 1914, pp. 2-26; B. Ehrlich 1920, pp. 178-203; B. Ehrlich 1937b, pp. 268-277.

The burial complexes with Scandinavian equipment were analyzed in more detail, although publications on the subject should be considered preliminary, presenting only a selection of the richest burials (B. Ehrlich 1937a, pp. 1-17; W. Neugebauer 1937a, pp. 19-28). There are three richest burials among them – graves number 7, number 23 and number 41.

Grave No. 7 contained, among other things: one whole and a fragment of another rectangular openwork clasp, two bronze chains assembled from double links, two hook-type chain clasps (one preserved fragmentarily), five bronze bracelets and a can-type clasp (Fig. 6).



Fig. 6. Elblag-Pole Nowomiejskie, equipment of grave No. 7 (according to W. Neugebauer 1938, p. 3, Abb. 4)

Grave No. 23 contained, among other things: two oval clasps, to which two bronze chains were attached using hook-type clasps (one in a fragment) assembled from double links, two bronze bracelets, including one with a wavy ornament (Fig. 7).

Grave No. 41 was discovered at a depth of 20 cm from the ground. In the plan it was outlined as a circular grave pit with a diameter of 50 to 70 cm and a depth of about 30 cm (Fig. 8). The pit was filled with earth of intense black colour and a large number of burnt human bones, among which, during the exploration, one could still recognize the outline of the skull and mandible. Equipment of the grave: two bronze animal head-shaped clasps with iron attachment pins, two bronze "bell" pendants with seven holes at the bottom edge for attaching the chains, probably seven bronze chains (a large part of them survived only in the form of melted fractions), a necklace consisting of 90-100 beads (glass, bronze), a bronze openwork shield (pendant?) decorated with a stylized animal ornament, two oblong bronze pendants with openwork plates, a box brooch (decorated, among others, with small human heads), six bracelets, including one wide one, hair tweezers (some of which presented in Fig. 9).



Fig. 7. Elblag-Pole Nowomiejskie, equipment of grave No. 23 (according to K. Gloger, p. 207, Abb. 70)



Fig. 8. Elblag Pole Nowomiejskie – outline of the female burial pit no. 41 (source: Ehrlich 1937, Tafel IIb)

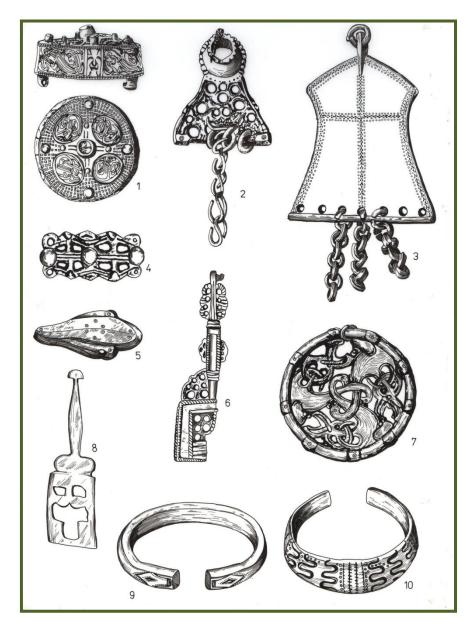


Fig. 9. Monuments from the cemeteries at Pole Nowomiejskie in Elblag from grave No. 41 – the selection was prepared by M. F. Jagodziński, Fig. B. Kiliński

As can be seen from partially reconstructed grave inventories, as well as from the description of other monuments (a large part of which came from burials already destroyed during construction works – Fig. 10; Fig. 11; Fig. 12), they usually contained two or three chains worn originally on the chest (the exception is grave No. 41, where there were seven such chains), which were connected on the shoulders with special hook-type clasps with various types of fibulas – including equal-armed, ovals, with high collar (*Schnallen mit hohem Rahmen*) and, as was the case with grave No. 41, bronze 'bell' pendants.

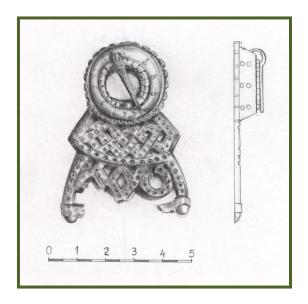


Fig. 10. Elbląg Pole Nowomiejskie, a high collar clasp from a destroyed grave

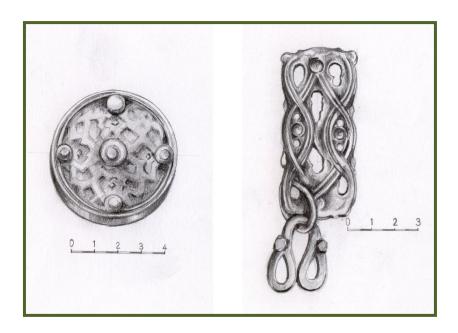


Fig. 11. Scandinavian clasps from the cemetery at Pole Nowomiejskie in Elbląg from destroyed graves



Fig. 12. Scandinavian oval clasps from the destroyed grave in the cemetery at Pole Nowomiejskie in Elblag

A large number of bronze bracelets were also discovered in these graves, as well as keys made of bronze, which were most often worn as pendants (Fig. 8, no. 6, 8). Necklaces made of glass, bronze and bone beads as well as *Kauri* shells were also put into the graves. Two box brooches also come from this cemetery (Fig. 8, No. 1; Fig. 10, no. 5).

Summarizing the review of available information on discoveries of Scandinavian graves from cemeteries at Pole Nowomiejskie, the clear difference raised by German and Swedish archeologists should be emphasized that was observed in the forms of burials, as well as their equipment, compared to the closest Viking cemetery in the city of Kaup-Wiskiauten in Sambia⁹. First of all, skeletal burials in mounds prevail there, while in Elbląg we only deal with cremation graves without mounds. The equipment of graves from Kaup shows kinship with objects found in continental Sweden, while the Elbląg ornaments have mostly analogies in the monuments from the cemetery in Grobina and Gotland (Ehrlich 1937a, p. 14). The dating of these finds was determined mainly on the basis of the Birger Nerman chronology developed for Gotland and Grobina. Thus, some of the Elbląg graves were dated for the 8th century, the largest number in the 9th and partly in the 10th century¹⁰. According to this classification, the directions from which these objects could have come

⁹ For the latest research on this cemetery see: V. I. Kulakov, 2005, pp. 55-79.

¹⁰As for the dating and provenance of Elblag graves, see also: B. von zur Mühlen, 1975; W. Duczko 1997, p. 204-205. In my opinion, the above-described grave complexes and individual monuments from destroyed burials coming from the Pole Nowomiejskie cemetery, present forms characteristic especially for the period from the 8th to the middle or the end of the 9th century.

were also indicated – Gotland for the older period, in which characteristic Gotland forms prevail, and Sweden for the younger period, in which Middle Swedish forms prevail.

After the war, another discovery was made in this cemetery. In 1957, during works in the home garden at 38 Lotnicza Street, a complex of iron monuments was found, which included: a well-preserved spearhead (type "E" Petersen), a fragment of another spearhead, a fragment of a knife and a sword (Haftka 1973, p. 21-32). According to the words of the finder, there were also remains of the human skeleton at the site of the discovery. The sword was bent in four places and broken into three parts. During a thorough visual inspection and microscopic analysis it was found that it had been put into fire (Mazur, Nosek 1973, pp. 4-19). However, due to the unclear context of the discovery (there was no archeologist present), it is difficult to determine beyond any doubt whether the weapon came from a cremation or skeletal grave. It cannot be ruled out that the sword was bent in a glowing state, which was sometimes done during mourning ceremonies, including skeletal burials (Kirpičnikov, Jagodziński 2006, p. 439). The sword belongs to type "H" according to J. Petersen's classification. It has an interesting application (marking) on both sides of the head in the form of diagonally arranged strips of patterned steel (Fig. 13). This application is to be considered a decorative mark of the blacksmith of this weapon. According to A. N. Kirpičnikov's findings, marks composed of diagonally arranged strips are characteristic of many early medieval swords and are usually combined with the name of the master or the name of the works. In the case of the Elblag sword, the blacksmith duplicated this mark, placing it on both sides of the head, while resigning from literal writing of his name. Double-sided marking with a composition similar to that of the Elblag sword is very rare and may prove the use of local varieties of weapon marking.

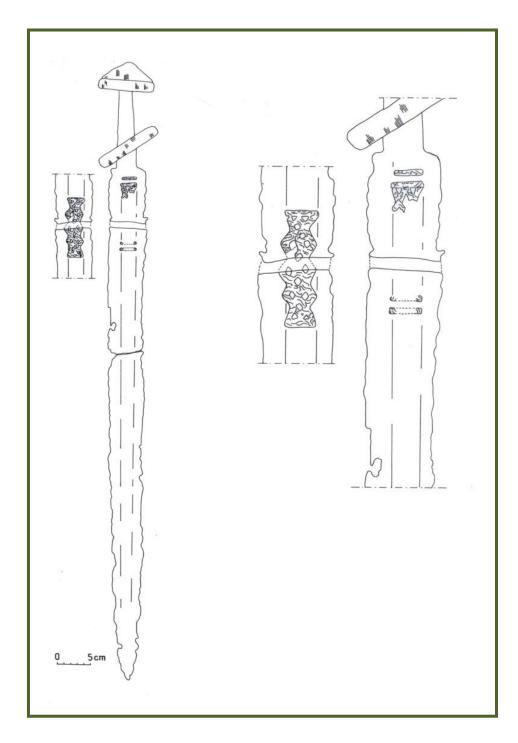


Fig. 13. Iron sword type H found at Pole Nowomiejskie in Elbląg. The drawing reproduction was done by A. N. Kirpičnikov (Kirpičnikov, Jagodziński 2006)

1.3. Settlement characteristics

The Truso relics were discovered in the former Slavic-Baltic borderland. In the coastal part it was marked by the river Elbląg (*Ilfing*), lake Drużno and the deep valley of river Dzierzgoń. The emporium's location on the borderlines is a certain regularity that can be seen in many other sites of this type. As an example, the Hedeby (Haithabu), considered to be one of the main *central places* of Europe of the Viking period, was founded on the German-Danish border.

Truso was founded directly on the shore of the then much larger lake Drużno (Fig. 14) – so it was a port. From the perspective of the research carried out in Janów Pomorski (Truso), we already have enough data to address the spatial image of this emporium. First of all, its size was determined quite precisely, which is currently estimated at about 20 ha (Fig. 15).

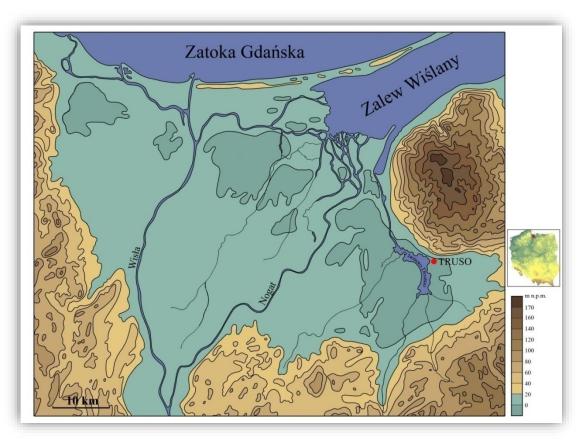


Fig. 14. Location of Truso against the background of the contemporary hydrographic and altimetric map of the Vistula estuary area

There is a clear division of the whole site into individual zones: port, central and peripheral. The port zone covered an area of about 7 ha (including possible port basins), the

central zone covered an area of about 6 ha and the peripheral zone covered an area of about 7 ha (Fig. 16).

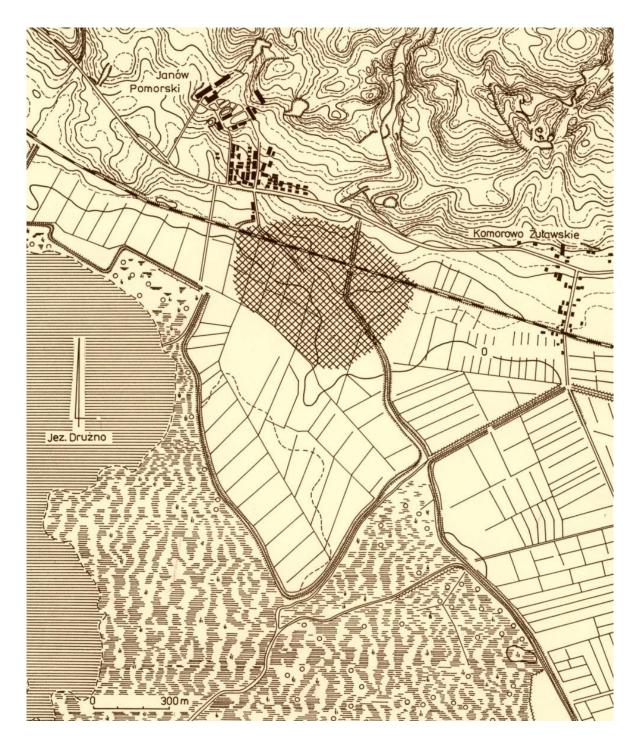


Fig. 15. Location of the settlement against a topographic map on a scale 1: 10000. Oblique grid marks the area of artifacts, objects and cultural layers

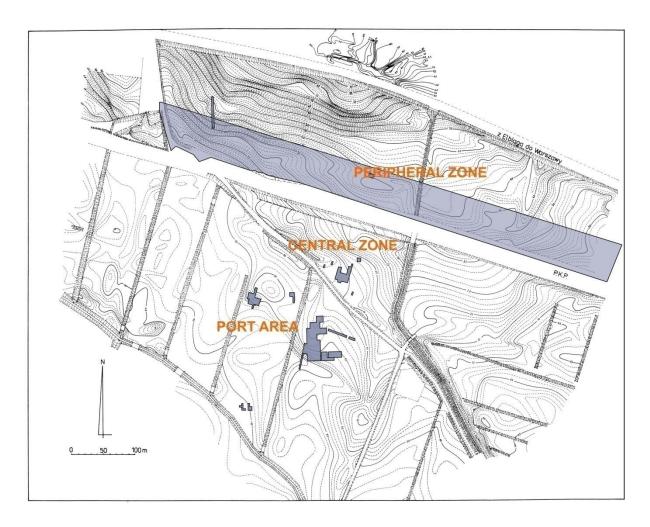


Fig. 16. Layer plan of the settlement in Janów Pomorski. Marked trial trenches and zones: port, central and peripheral

Each of these areas served a different function and had different development. The studies so far have shown that at least part of the port zone and the central settlement was divided into regular plots, which measured about 10-11 m wide and 25-30 m long. In the central zone, all identified plots of land were situated on a longer axis parallel to the coastline (Brather, Jagodziński 2012, pp. 284-296), while in the port zone, most of the plots of land were facing the coastline with their shorter side (Jagodziński 2010, pp. 77-85); the idea was probably to provide the most plots with access to water. Within the plots of land, relics of buildings erected in a column or foundation and column structure were discovered, the parameters of which in the horizontal projection in most cases were: 5×10 m and 6×21 m. Although there were some deviations from this scheme, attention was drawn to the regular layout of all buildings, which were located within the plots, along the regulated stream and passageways (Fig. 17).

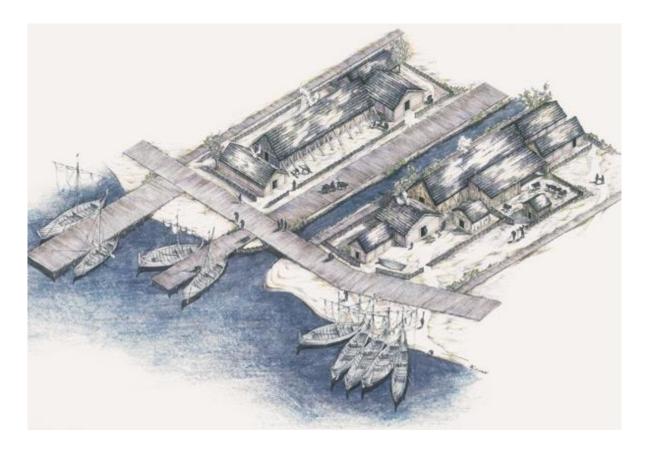


Fig. 17. Proposed reconstruction of a fragment of development in the port area of the settlement made on the basis of the results of excavation and surface studies – reconstruction by Marek F. Jagodziński; Fig. Bogdan Kiliński

These were mainly tripartite buildings with open fireplaces usually located in the central parts of buildings. In most of the buildings there were also found remains of weaving workshops (Jagodziński 2017). A drainage ditch discovered in the central part, running approximately parallel to the shoreline, not only drained excess water from this part of the settlement, but also marked an important dividing line of the settlement in its land part. The factor determining the location of the plots of land was the natural stream flowing from the Elblag Upland (from the north) to lake Drużno, spilling south of the settlement. The stream's trough was regulated and the directions of the run-off were intentionally directed, as was the case with Hedeby. In the peripheral zone, on the other hand, radically different buildings were discovered – these were mainly small sunken houses, located in a rather loose arrangement along hypothetically designated routes (Michał Auch, Mateusz Bogucki, Maciej Trzeciecki 2012, p. 124-165).

The blacksmiths who had their workshops in Truso, based on imported iron bars, as well as using the local bog iron deposits, produced various tools and weapons. These were knives (produced using the so-called *sandwich* technique – characteristic of Scandinavian

smithery), sickles, keys, arrowheads and spearheads, as well as swords. As a product of blacksmith's workshops, an extremely wide range of construction elements such as rivets, nails, wires, chain links and hooks should also be mentioned.

There were also antler and bone workshops. They produced, apart from various types of frames, facings or board pawns for the board game named *hnefatafl*, and mainly combs. It is assumed that these workshops operated mainly for the needs of the long-distance market and the inhabitants of these central places themselves.

Specialists in metalwork and jewelry produced various types of ornamentation, which presented a typical example of Scandinavian craftsmanship in terms of style as well as applied techniques. These include silver and bronze ring brooches, bronze shield-shaped brooches, equal-armed, oval and trefoil broches, bronze pins and bronze chains associated with the way they were worn. Various types of amulets were also produced, such as silver and bronze rings and pendants related to the cult of Odin, Thor or Loki.

In Truso, glass craftsmen marked their presence very clearly. This is evidenced by the discovered glass-making workshops with furnaces around which bead semi-finished products, characteristic production waste and cullet were found. The imported (from Rhineland and Byzantium) glass vessels and glass mosaic cubes were processed into various types of beads, made mainly by pulling, winding, blowing and ironing techniques.

One of the most numerous categories of items uncovered during the excavation research conducted in Truso was raw amber and various kinds of amber products. So far, a large collection of amber weighing several dozen kilograms has been obtained. A large part of the finds are production waste and products that were unfinished or damaged and abandoned at different stages of processing. Amber was used to make beads of various sizes, pawns and pendants, among which Thor's hammers are particularly noteworthy, as well as symbols of the new faith, Latin crosses.

*

To sum up, both the structure of the settlement as well as the discovered and culturally identified artifacts indicate the Scandinavian provenance of the builders and inhabitants of this emporium. Contacts between Scandinavians and the Balts have been well documented since as early as 6th century. As shown in chapter 1.2. Scandinavian graves in the cemeteries of the Elblag agglomeration, Scandinavian burials from the 8th to 9th/10th century discovered in the Elblag area, a few kilometers north of the settlement of Truso, indicate that in the Viking period (8th to 11th century), the presence of yet another group of Scandinavians, probably not directly related to the inhabitants of this emporium, should be taken into account

here. The nature of their presence remains unexplained, and the main obstacle in solving this issue is the fragmentary nature of the research on the settlements of the Elblag agglomeration, which was carried out in the interwar period (e.g. Elblag Warszawskie Przedmieście, where a building with a column structure was discovered; Ehrlich 1936, p. 239) and in the late 1950s (Kamińska 1959, pp. 35-48).

The opposite is true for Truso. This emporium has been discovered and largely researched. The question of the associated cemetery is unresolved, however. When looking for a cemetery associated with it, one should take into account other centers of the Viking period functioning in the Baltic Sea basin, such as Hedeby, Birka or Wolin. Everywhere there, cemeteries were located directly next to these sites. As far as Truso is concerned, we have some indications that the cemetery may be located directly north-west of the settlement.

1.4. Siegfried Anger's information on the discovery from 1868

In 1866, Captain Adolf Eggert, owner of the Hansdorf estate, built a magnificent palace on the site of the former large fortified manor (castle?). Siegfried Anger, President of the Elblag Ancient Society (Elbinger Altertumsgesellschaft), visited the Hansdorf estate 12 years later. He reported on these visits in the journal "Zeitschrift für Ethnologie" (Anger 1878, p. 198-199; Fig. 18).

Here is what it reads:

A new season of my archeological research will begin in the coming days. First of all, I am going to drive a shovel in the Hansdorf estate (currently Janów in Elblag district) near Pr. Mark (currently Przezmark, Elbląg district). The owner of this knightly estate, Mrs. Eggert, granted my request very kindly. She recently sent me a well-preserved axe made from an elk antlers. It was found during earthworks on a building under construction at a depth of 9 feet. This finding, as well as the reports of my esteemed and reliable Plath, who about 10 years ago surfaced the yard of Janów's establishment, finding shells, ashes, coal, "terrible" teeth and human skeletons, make me very excited to expect the results of our research. One thing is certain - if only Wulfstan hadn't made his account up, if Truso really existed and wasn't located near Elblag on the site of New Town Field, it is unlikely to be located somewhere else than near Janów. It is here that the range of hills falls terraced to the shore of lake Drużno, while on a plateau intersected by a road and railway embankment there is enough space to accommodate even more settlements than just one Truso. Finally, this is the only place where ships could easily call at centuries ago, as only here no rivers or streams that could flatten the bottom of the lake fall into it. Translation from German to Polish: Jerzy Rejchert, Joanna Szkolnicka Museum of Archeology and History, Elblag.

über Ausgrabungen in der Gegend von Elbing.

Die neue Saison meiner archäologischen Untersuchungen beginnt in den nächsten Tagen. Ich gedeuke, den Spaten zunächst in Hansdorf bei Pr. Mark einzusetzen. Frau Rittergutsbesitzer Major Eggert hat auf meine Anfrage in der liebenswürdigsten Weise zustimmend geantwortet. Sie hat mir vor kurzem eine wohlerhaltene, aus einem Geweihstiel eines Elchs gearbeitete Axt übersendet. Dieselbe ist bei den Fundamentirungsarbeiten eines zu errichtenden Gebäudes 9 Fuss tief in der Erde gefunden worden. Dieser Fund und die Mittheilungen meines braven und durchaus zuverlässigen Plath, welcher vor etwa 10 Jahren den Hofplatz in Hansdorf planirte und dabei Scherben, Asche, Kohle, "ungeheure" Zähne und menschliche Skelette gefunden hat, machen mich auf das Resultat meiner

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(199)

Nachforschungen äusserst gespannt. — So viel ist sicher: Wenn Wulfstan sich seinen Bericht nicht etwa erdacht hat, wenn ein Truso wirklich vorhanden gewesen ist und wenn dasselbe sich nicht bei Elbing auf dem Neustädterfelde befunden haben sollte, so kann es füglich kaum wo anders als gerade bei Hansdorf gelegen haben. Denn gerade hier geht der Höhenzug mit einer Terasse bis hart an den Drausensee heran, auf dem von der Chaussee und dem Bahndamme durchschnittenen Plateau ist Raum für mehr als ein Truso vorhanden, und nur an dieser einen Stelle hat auch in früheren Jahrhunderten ein bequemer Landungsplatz existiren können, weil nur an dieser Stelle keine Flüsschen und Bäche in den See hineinfliessen und sein Bett verflachen.

Fig. 18. A copy of an excerpt from Dr Siegfried Anger's report on his stay at the Hansdorf estate, published in the magazine "Zeitschrift für Ethnologie" in 1878 (source: Google)

Anger's report leaves no doubt: while surfacing the square in front of the palace in Janów, the remains of cemeteries were found. The *shells*, *ashes*, *coal and human skeletons* found there are difficult to interpret chronologically in an unambiguous way, due to the perfunctory description. Let us add that the description was drawn up on the basis of the account of Plath's supervisor, who was probably only responsible for the proper execution of earthworks and had nothing to do with archeology. Undoubtedly, it was a skeletal cemetery and probably a crematory one (*ashes*, *charcoal*). The only indication that the Scandinavians of the Viking period were buried there are the "*terrible*" *teeth* ("*ungeheure*" *Zähne*) mentioned in the report. Today we know, thanks to the discoveries of a whole series of Scandinavian graves with modified teeth (among others in Kopparsvik in Gotland; Toplak 2015, pp. 77-97), that the procedure of "ornamental" tooth filing was used in the Scandinavian Viking era – the procedure was certainly painful, but the effects were undoubted. It is not surprising, therefore, that Plath remembered them, describing them as something unusual, disturbing, or terrible (Fig. 19). The fact that no such finds were known at that time indicates

that it was not an invented term, but a description of the specific state of preservation of dentition of the people buried there – Scandinavians.



Fig. 19. A fragment of a man's skull with filed teeth found in Kopparsvik, Gotland. Source: G. Wiliams, P. Penz, M. Wemhoff ed. 2013, p. 80

It is worth quoting here the interpretation of the custom of tooth modification included in the article by Matthias S. Toplak mentioned above: "The majority of these men were buried at important trading places such as Birka, Sigtuna, Kopparsvik near present-day Visby, Slite torg, Othems sn at the north eastern shore of Gotland, or the area of southern Sweden around Trelleborg. This potential relationship with early emporia and trading activities, and the limited visibility of the tooth modifications which unobtrusively denote a particular identity and legitimacy, allows the formulation of the thesis that the modification of teeth should be seen as a rite of initiation and sign of identification for a closed group of merchants, similar to the later guilds. The existence of early trading communities or guilds is proved by the so-called 'Gildesteine' at Sigtuna and Östergötland which explicitly mention 'Frisian gilds' and 'gild brothers'. Following this assumption, members of this closed group of merchants could identify themselves through the teeth filings and thus received commercial advantages, protection or other privileges which were relevant to the development of the concept of trading guilds in high medieval times."

The potential presence of human skeletons with such modified teeth in the cemetery associated with the Truso trade center would be yet another evidence in favour of the thesis put forward in Toplak's article that these are graves of merchants. This would also indicate that the skeletons discovered by Plath during the surfacing date back to the Viking period and that he discovered a part of the cemetery associated with Truso.

The above presented results, bibliographic studies and the analysis of the meaning of Anger's account became the basis for geophysical and excavation research on the square in front of the palace in Janów.

2. Excavation work

Archeological excavations were carried out from 1 September to 3 October 2020 on the area of the palace complex in Janów, entered in the register of real estate monuments under number A-1217. Excavations were carried out in accordance with the conditions contained in the Permit of the Warmia and Mazury Monuments Conservator in Olsztyn, Delegation in Elbląg to conduct archeological excavations on plot no. 17 in precinct 0014 Komorowo Żuławskie, Elbląg district, Elbląski County, warmińsko-mazurskie province (WUOZ-ELBKLAG.5161.8.2020.MMA).

The following participated in the research:

dr Marek F. Jagodziński – archeologist, head of research, Museum of Archeology and History in Elbląg;

Paweł Wlizło, M.Sc. – archeologist, deputy head of research, Museum of Archeology and History in Elbląg;

Grzegorz Stasiełowicz, M.Sc. – archeologist, Museum of Archeology and History in Elbląg; dr. Mirosław Marcinkowski – archeologist, Museum of Archeology and History in Elbląg; Jerzy Rejchert, M.Sc. – archeologist;

Agata Grzędzielska – completed full-time studies at the first degree at the University of Warsaw, major in archeology;

students of the University of Gdańsk at the Faculty of Archeology – Dawid Cichowski, Szymon Kruszyński, Michał Trawicki, Zofia Szutenberg.

Volunteers also participated in the excavations, including:

Kamil Rabiega, M.Sc., archeologist, PhD student at Cardinal Stefan Wyszyński University in Warsaw;

Filip Szczepański.

The main research trench was delineated in the place of clear and regular anomalies recorded during non-invasive geophysical measurements (Fig. 20; Fig. 21). According to Fabian Welc's assessment, "taking into account the size of the registered anomalous zones and their geometry, we can assume that they are an echo of settlement structures, most probably buildings of a rectangular base measuring about 10 by 10 meters" (Welc 2020). Additionally, 11 small trial trenches were delineated, covering the entire area of the square in front of the palace to be surveyed (see Fig. 22; Fig. 23). The trenches were aimed at recognizing the stratigraphy of the surveyed area, and especially at explaining whether any fragments of cemeteries survived after the land was surfaced in 1868.

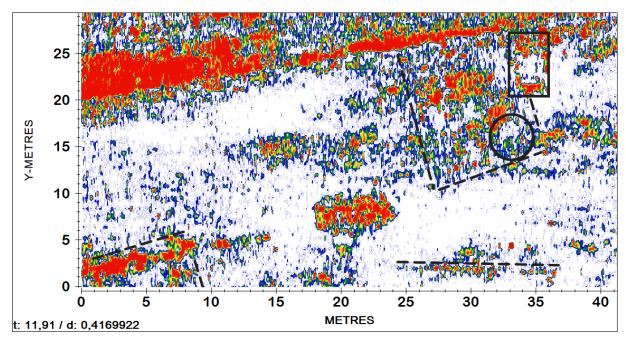


Fig. 20. GPR plan, approximate depth 0.40~m with delineation of the most important abnormalities (detailed description: Welc 2020)



Fig. 21. Location of the polygon and results of GPR profiling within polygon 1A (Welc 2020)

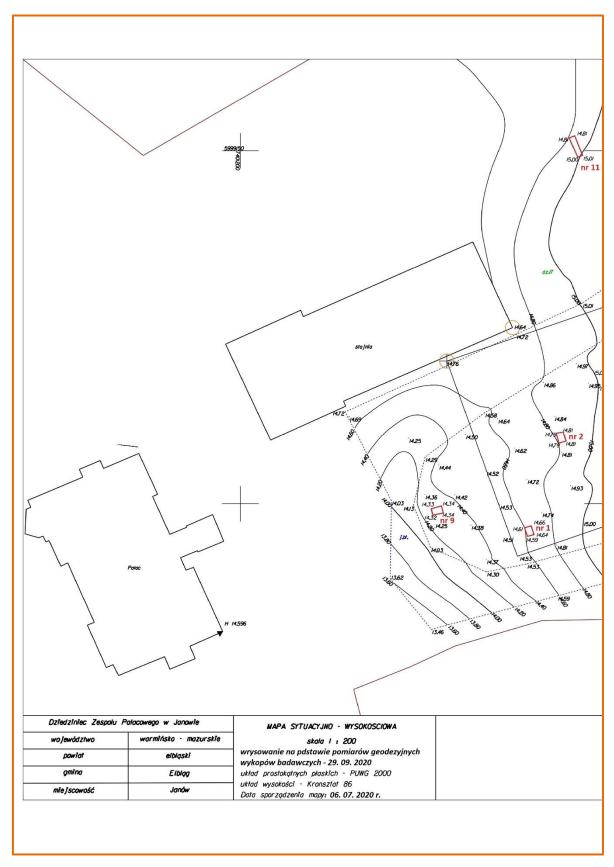


Fig. 22. Topographical map of the courtyard of the Palace Complex in Janów, western part, scale 1: 200. The trial trenches are marked in red and with a numbering description

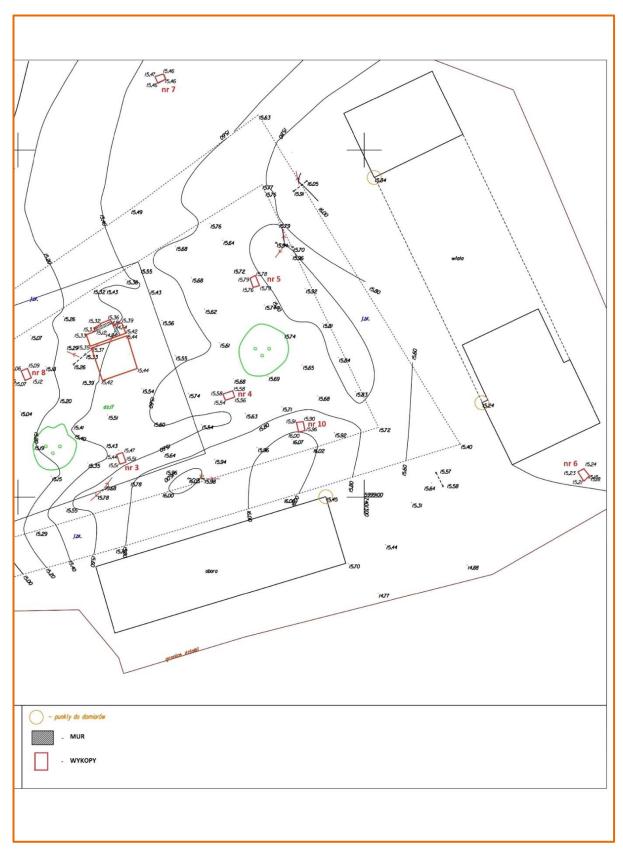


Fig. 23. Topographical map of the courtyard of the Palace Complex in Janów, eastern part, scale 1: 200. The trial trenches are marked in red and with a numbering description



Fig. 24. Photogrammetric documentation of the square in front of the palace in Janów with marked research trenches - Main trench and 4 trial trenches. Prepared by Kamil Rabiega



Fig.~25.~Photogrammetric~documentation~of~the~square~in~front~of~the~palace~in~Jan'ow~p.~1-marked~location~of~trial~trenches~1~and~2.~Prepared~by~Kamil~Rabiega



Fig.~26.~Photogrammetric~documentation~of~the~square~in~front~of~the~palace~in~Jan'ow~p.~2-marked~location~of~trial~trenches~3~and~4~and~the~main~research~trench.~Prepared~by~Kamil~Rabiega

2.1. Trial trench 1 – location, see Fig. 22; Fig. 24; Fig. 25



Fig. 27. Trial trench 1, eastern profile of the trench. Photograph by P. Wlizlo

Trench stratigraphy:

A – humus + subsoil, which was formed by a modern levelling layer in the form of various-grained sand mixed with gravel, lumps of mortar and fractions of bricks, thickness up to about 23 cm;

B – modern levelling layer in the form of charcoal and slag, thickness from 10 to 20 cm;

C – modern levelling layer in the form of various-grained sand, thickness from 20 to 25 cm;

D – levelling layer in the form of various-grained sand mixed with contemporary building rubble, thickness from 25 to 30 cm;

E – undisturbed soil at a depth of about 80 cm from the surface – compacted clay sands, with small boulders in the bottom part (Fig. 28, II).

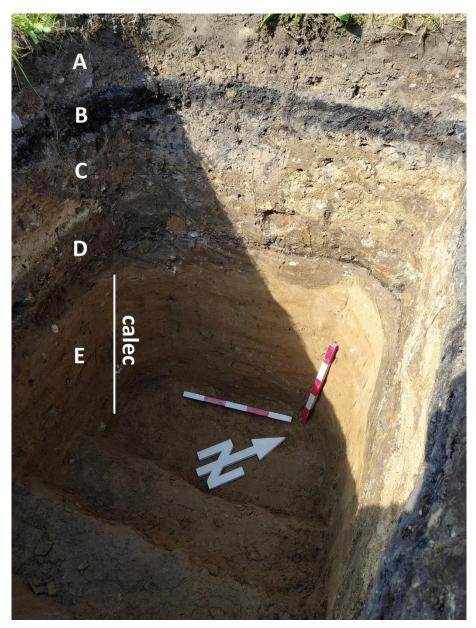


Fig. 28. Trial trench 1, B, C. D – modern levelling layers; E – undisturbed soil. Photograph by P. Wlizlo

2.2. Trial trench 2 location, see Fig. 22; Fig. 24; Fig. 25

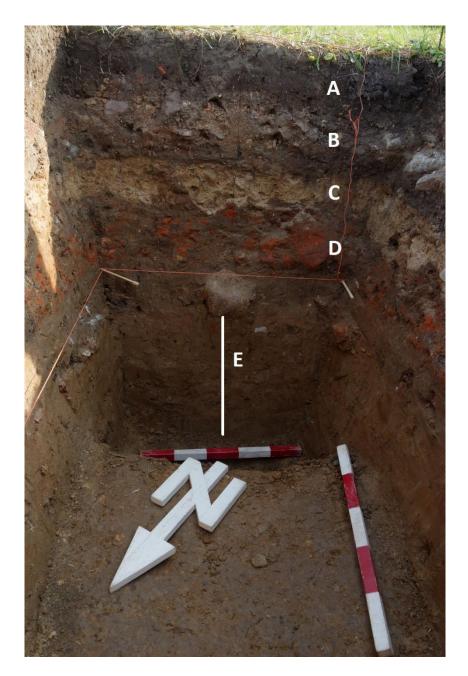


Fig. 29. Trial trench 2, southern profile. Photograph by P. Wlizlo

Trench stratigraphy:

A – humus + subsoil, which was formed by a modern levelling layer in the form of various-grained sand mixed with gravel, lumps of mortar and fractions of bricks, thickness up to about 20 cm;

 ${\bf B}$ – modern levelling layer in the form of small field stones (former paving level) mixed with clay, various-grained sand and a small amount of charcoal, thickness up to 20 cm;

C – modern levelling layer in the form of various-grained sand and gravel, thickness from 10 to 17 cm;

D – levelling layer in the form of various-grained sand, in the ceiling part with a large amount of contemporary building rubble (mainly crushed bricks), thickness up to 30 cm;

 \mathbf{E} – undisturbed soil at a depth of about 85 cm from the surface – compacted clay sands (till clay) with ferrous precipitations.

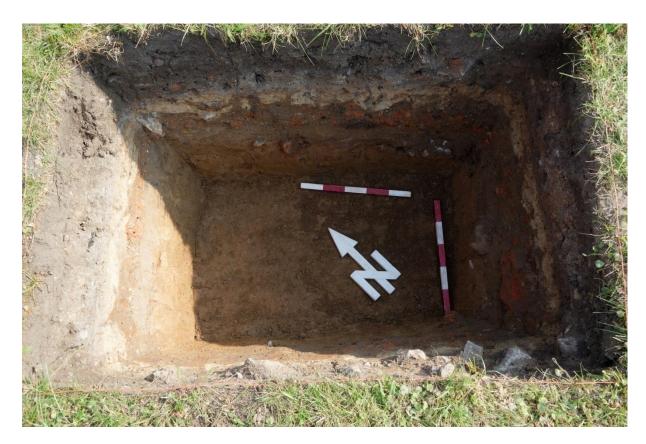


Fig. 30. Trial trench 2, trench plan at a level of about 140 cm from the surface. Photograph by P. Wlizło

2.3. Trial trench 3 – location, see Fig. 23; Fig. 24; Fig. 26

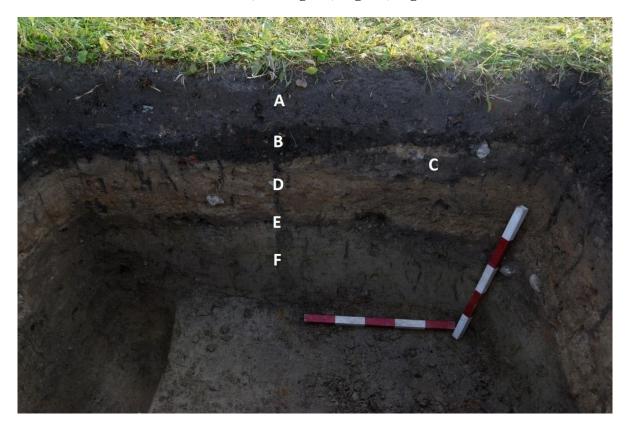


Fig. 31. Trial trench 3, western profile. Photograph by P. Wlizlo

Trench stratigraphy:

A – humus + subsoil, which was formed by a modern levelling layer in the form of various-grained sand mixed with lumps of mortar, fractions of bricks and charcoal, thickness up to about 20 cm;

 ${f B}$ – wedge-shaped modern levelling layer in the form of charcoal and slag, thickness from 1 to 15 cm;

C – wedge-shaped modern levelling layer in the form of various-grained sand mixed with charcoal, thickness from 1 to 15 cm;

 \mathbf{D} – levelling layer in the form of various-grained sand and gravel, thickness from 15 to 20 cm;

 \mathbf{E} – thin levelling layer in the form of various-grained sand mixed with a lot of charcoal, thickness about 3 cm;

 \mathbf{F} – undisturbed soil at a depth of about 78 cm from the surface – compacted clay sands (till clay) with ferrous precipitations.



Fig. 32. Trial trench 3, southern profile. Photograph by P. Wlizlo

2.4. Trial trench 4 – location, see Fig. 23; Fig. 24; Fig. 26



Fig. 33. Trial trench 4, eastern profile

Trench stratigraphy:

A – humus + subsoil, thickness up to about 25 cm;

 ${f B}$ – levelling layer in the form of various-grained sand and gravel, thickness up to about 30 cm;

 ${f C}$ – levelling layer in the form of various-grained sand with the content of charcoal and machine bricks, thickness from 6 to 15 cm;

D – levelling layer in the form of various-grained sand, thickness up to 35 cm;

E – undisturbed soil, compacted clay sands – at a depth of about 105 cm from the surface.



 $\begin{tabular}{ll} Fig. 34. Trial trench 4, view of the undisturbed soil ceiling - compacted clay sand. Photograph by P. \\ Wlizlo \end{tabular}$



Fig. 35. Trial trench 4, fragment of the northern profile; below the undisturbed soil ceiling, which was compacted clay sand, there were layers of various-grained sand in a stratified arrangement; below 190 cm from the surface there was groundwater. Photograph by P. Wlizlo

2.5. Trial trench 5 – location, see Fig. 23

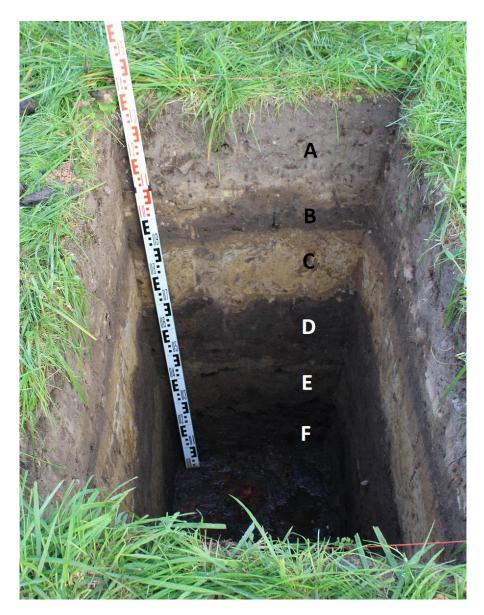


Fig. 36. Trial trench 5, northern profile. Photograph by M. F. Jagodziński

Trench stratigraphy – northern profile:

- A humus and subsoil, thickness about 35 cm;
- **B** modern levelling layer in the form of sand mixed with charcoal, thickness about 10 cm;
- C modern levelling layer in the form of various-grained gravel sand, thickness about 25 cm;
- **D** modern levelling layer in the form of various-grained sand mixed with charcoal and humus, thickness about 25 cm;
- \mathbf{E} modern levelling layer in the form of various-grained sand with a small admixture of gravel and charcoal, thickness about 25 cm;

 \mathbf{F} – modern levelling layer in the form of various-grained sand with an admixture of charcoal, lumps of mortar and fragments of contemporary bricks, thickness 20 cm to the ground water level (140 cm from the trench surface),



Fig. 37. Trial trench 5, western and northern profile; at the depth of 140 cm from the surface of the trench there was a levelling and backfill layer with a high content of fragments of contemporary bricks. Further exploration was hindered by the influx of groundwater. Photograph by M. F. Jagodziński



Fig. 38. Eastern profile of trial trench 5. Photograph by P. Wlizlo

Trench stratigraphy – eastern profile:

- **A** humus, about 10-15 cm thick;
- ${f B}$ levelling layer in the form of various-grained sand with a small admixture of crushed bricks and mortar, thickness from 15 to 20 cm;
- ${f C}$ levelling layer in the form of various-grained sand mixed with charcoal and humus, thickness up to 10 cm;
- **D** levelling layer in the form of clayed various-grained sand, thickness from 12 cm;
- **E** levelling layer of various-grained sand and gravel, thickness up to 20 cm;
- \mathbf{F} levelling layer of various-grained sand with a small admixture of charcoal and humus, thickness up to 32 cm;

- **G** levelling layer in the form of a mixture of various-grained sand and clay, wedge-shaped arrangement, on the eastern profile up to 10 cm, on the southern profile up to 40 cm;
- \mathbf{H} levelling layer in the form of various-grained sand mixed with charcoal and clayey formations, thickness up to 40 cm;
- I layer of various-grained sand and gravel mixed with contemporary building rubble in the form of crushed machine bricks cement mortar, thickness up to 30 cm.

The trench was explored to the depth of 190 cm from the surface – further exploration was hindered by the inflow of ground water. Hence, the undisturbed soil was not reached.



Fig. 39. Trial trench 5, ceiling of layer "F". Photograph by M. F. Jagodziński

2.6. Trial trench 6 – location, see Fig. 23



Fig. 40. Trial trench 6, southern profile. At a depth of about 140 cm from the surface, ground water appeared which made further exploration impossible. Photograph by P. Wlizlo

Trench stratigraphy:

A – humus + subsoil (originally levelling layer), thickness from 30 to 40 cm;

 ${f B}$ – modern levelling layer containing various-grained sand mixed with cement and lime mortar, thickness about 10 cm;

C – modern levelling layer in the form of clay sand mixed with building rubble, thickness up to 35 cm;

 ${f D}$ — modern levelling layer in the form of fine-grained sand mixed with charcoal; base comprising of stones in layered arrangement; thickness up to about 20 cm;

- ${\bf E}$ modern levelling layer in the form of fine-grained sand, wedge-shaped arrangement, thickness up to about 8 cm;
- \mathbf{F} modern levelling layer in the form of fine-grained sand mixed with a large amount of charcoal, base comprising of stones in layered arrangement; thickness up to about 20 cm;



Fig. 41. Trial trench 6, western profile. Photograph by P. Wlizlo

2.7. Trial trench 7 – location, see Fig. 23



Fig. 42. Trial trench 7, northern profile. Photograph by P. Wlizlo

Trench stratigraphy:

A – humus + trace subsoil, thickness from about 10 cm;

 ${f B}$ – modern levelling layer of building rubble (crushed bricks and cement and lime mortar), thickness up to about 25 cm;

C – modern levelling layer in the form of various-grained sand mixed with charcoal and a small amount of building rubble, thickness up to about 25 cm;

 \mathbf{D} – levelling layer in the form of clay sand mixed with a small amount of building rubble, thickness up to about 15 cm;

 ${\bf E}$ – undisturbed soil in the form of clay sand or clay with ferrous precipitations and organic plant residues. Undisturbed soil ceiling is about 85-90 cm deep from the surface.



Fig. 43. Trial trench 7, eastern profile. Photograph by P. Wlizlo

2.8. Trial trench 8 – location, see Fig. 23



Fig. 44. Trial trench 8, eastern profile. Photograph by P. Wlizło

Trench stratigraphy:

A – humus + subsoil, thickness about 13 cm;

B – modern levelling layer in the form of various-grained sand and gravel; in the southern part with admixture of charcoal, thickness up to about 20 cm;

C – modern levelling layer in the form of various-grained sand and gravel mixed with a small amount of charcoal, thickness up to about 20 cm;

 \mathbf{D} – levelling layer in the form of various-grained sand and gravel mixed with building rubble and charcoal, thickness up to about 15 cm;

 \mathbf{E} – levelling layer in the form of fine-grained sand; thin layer of charcoal in the bottom; thickness up to about 15 cm;

F – undisturbed soil, glacial till.



 $\label{eq:Fig. 45.} \textbf{Fig. 45.} \ \textbf{Trial trench 8, northern profile. Photograph by P. Wlizlo}$



Fig. 46. Trial trench 8, trench plan at undisturbed soil level. Photograph by P. Wlizlo

2.9. Trial trench 9 – location, see Fig. 22

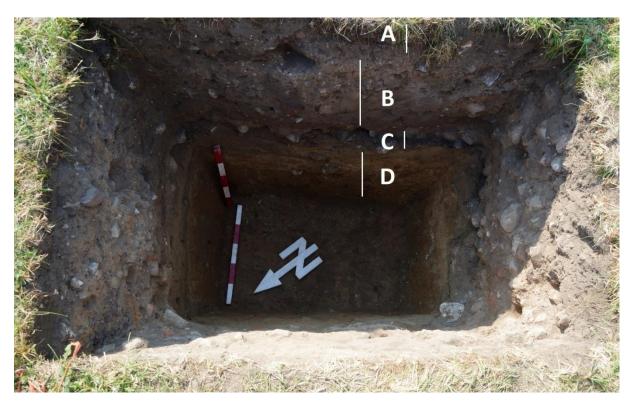


Fig. 47. Trial trench 9 – view of the south-eastern profile. Photograph by P. Wlizło

Trench stratigraphy:

A – humus + subsoil, thickness about 15 cm;

 ${\bf B}$ – modern levelling layer in the form of clay sand with a high content of small stones and a small amount of building rubble, thickness up to about 55 cm;

C – modern levelling layer in the form of various-grained sand with admixture of charcoal and small stones, thickness up to about 12 cm;

D – undisturbed soil, glacial till.

2.10. Trial trench 10 – location, see Fig. 23

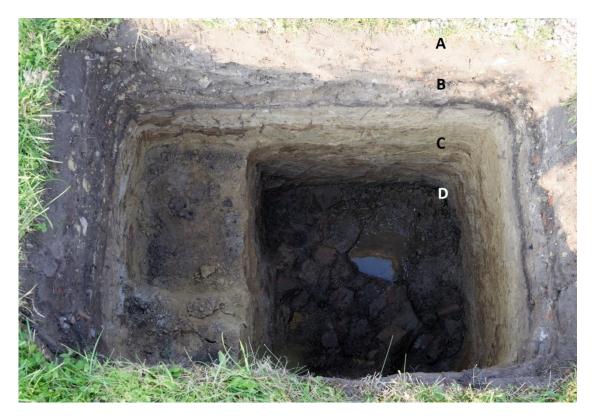


Fig. 48. Trial trench 10, western profile. Photograph by P. Wlizlo

Trench stratigraphy:

- **A** humus + subsoil, thickness about 16 cm;
- **B** modern levelling layer in the form of various-grained sand and gravel, mixed with lumps of mortar, layer of fire residues (charcoal) in the bottom; thickness up to about 20 cm;
- ${f C}$ levelling layer in the form of fine-grained sand with ferrous precipitations; thickness about 80 cm;
- **D** layer of building rubble. Further exploration was hindered by groundwater.



Fig. 49. Trial trench 10, view of the trench plan at the level of the rubble ceiling. Photograph by P. Wlizlo

2.11. Trial trench 11 – location see Fig. 22



Fig. 50. Trial trench 11, eastern profile. Photograph by P. Wlizlo

Trench stratigraphy:

- **A** humus + subsoil, thickness about 15 cm;
- **B** modern levelling layer in the form of various-grained sand mixed with lumps of mortar and fragmented brick fractions, thickness up to about 25 cm;
- C modern levelling layer in the form of various-grained sand mixed with charcoal and lumps of mortar, in the southern part with contemporary bricks, thickness about 15 cm;
- **D** layer of fine-grained sand in the northern part, thickness up to 30 cm;
- **E** layer of various-grained clay sand, thickness up to 30 cm;
- \mathbf{F} layer of various-grained sand mixed with charcoal and plant debris. The thickness of the layer was not determined due to the high depth which makes exploration impossible (the full stratigraphy of this part of the square was determined on the basis of full core wells) up to the explored level, the thickness was about 80 cm.



Fig. 50. Trial trench 11, SE corner. Level to which the exploration was made. Photograph by P. Wlizlo

2.12. Main trench



Fig. 51. View from the north to the square in front of the palace in Janów with the location of the Main trench; waters of lake Drużno are visible on the horizon. Photograph by K. Rabiega



Fig. 52. View from the east to the square in front of the palace in Janów with the location of the Main trench. Photograph by K. Rabiega



Fig. 53. Main trench, beginning of exploration. The northern direction and four exploratory areas are marked – part. 1; part 2; part 3; part 4. Photograph by K. Rabiega



Fig. 54. Main trench, western view, beginning of exploration, Photograph by M. F. Jagodziński



Fig. 55. Main trench, view to the north, beginning of exploration. Photograph by M. F. Jagodziński



Fig. 56. Main trench, exploration of Part 1 and Part 2. Photograph by M. F. Jagodziński



Fig. 57. Main trench, part 1, view of level E (cf. full stratigraphy, cf. western profile, Fig. 61). Photograph by P. Wlizło



Fig. 58. Main trench, part 1, central part of the northern profile. Full stratigraphy - see Fig. 62 below. Photograph by P. Wlizło



Fig. 59. Main trench, part 1, southeast corner on level D (see Fig. 62, part 1, northwest corner, northern profile). In the plan you can see an excavation for a wooden pillar (object 1); in the centre are the remains of the pillar. Photograph by P. Wlizlo



Fig. 60. Main trench, part 1, southeastern corner, profile of the pillar cavity with lower part of the wooden pillar preserved. Photograph by P. Wlizło



Fig. 61. Main trench, part 1, southwestern corner, western profile. Photograph by P. Wlizlo

- **A** humus and subsoil, thickness about 20 cm;
- ${\bf B}$ levelling layer in the form of various-grained clay sand, with charcoal admixture in the bottom (layer wedging to the north), thickness about 20 cm;
- C levelling layer in the form of loose various-grained sand and gravel with stones and small boulders, thickness about 12 cm;
- **D** levelling layer in the form of fine-grained sand with admixture of charcoal, thickness about 10 cm;
- \mathbf{E} two-layer stone paving, in the northern part hardening of the usable level of the former square (in the northern part demolished?), thickness up to about 10 cm;
- \mathbf{F} levelling layer in the form of various-grained sand mixed with charcoal, pieces of brick and small boulders (in the northern part a clay strip with small stones), thickness about 16 cm;
- G undisturbed soil, a layer of compacted clay sand (glacial till) with ferrous precipitations, small boulders and small stones.



Fig. 62. Main trench, part 1, north-west corner, northern profile. Photograph by P. Wlizlo

A (C, on full profile, Fig. 61) – levelling layer in the form of loose various-grained sand and gravel with stones and small boulders; in the bottom: one layer of stone paving on a thin layer of fire residue, thickness about 17 cm;

B (**D**, as above) - levelling layer in the form of various-grained clay sand, with admixture of charcoal, thickness up to 15 cm;

C (E, as above) - two- or three-layer stone paving built from field stones of different sizes – hardening of the usable level of the former square, thickness up to about 15 cm;

D (**F**, as above) - levelling layer in the form of compact clay sand with small boulders, in the eastern part with admixture of charcoal and single stones, thickness about 14 cm;

E (**G**, as above) - undisturbed soil, a layer of compacted clay sand (glacial till) with ferrous precipitations, small boulders and small stones.



Fig. 63. Main trench, part 2, level C (see Fig. 62). Stone paving in the northern part; layer of fire residue (charcoal) and a decomposing board in the southern part. Photograph by P. Wlizło



Fig. 64. Main trench, part 3, southern profile. Photograph by P. Wlizło

A-C – modern levelling layers, thickness up to about 25 cm;

D – late medieval levelling layer, thickness up to about 25 cm;

 \mathbf{E} – undisturbed soil, till clay – the ceiling occurred at the depth of 95 cm from the trench surface.



Fig. 65. Main trench, part 3 (extended to the south); central part of the eastern profile. Photograph by P. Wlizło

A – humus + subsoil, thickness up to 15 cm;

 ${f B}$ – modern (upper part) and late medieval (lower part) backfill layers, thickness up to about 95 cm;

C – undisturbed soil, glacial till



Fig. 66. Main trench, part 4, level C (see Fig. 67), view of the stone paving (object 2) in the plan. Photograph by P. Wlizlo



Fig. 67. Main trench, part 4, northern profile. Photograph by P. Wlizło

Stratigraphy:

- **A** humus + subsoil, thickness up to about 16 cm;
- **B** levelling layer in the form of various-grained sand and gravel, thickness up to about 18 cm;
- C layer of stone paving with fragments of bricks, wedging to the east, thickness from 20 cm on the western profile to the disappearance of the paving by the brick wall on the northern profile;
- **D** levelling layer in the form of clay sand mixed with a small amount of charcoal, thickness up to about 80 cm;
- **E** undisturbed soil, glacial till;
- \mathbf{F} foundation excavation;
- **G** relics of brick building (object 3), machine brick (25x12x6cm), cement and lime mortar.



Fig. 68. Main trench, part 4, close-up of a fragment of the northern profile – brick wall ceiling (object 3). Photograph by P. Wlizło



Fig. 69. Main trench, part 4, eastern part of the northern profile and the north-eastern corner of the remains of a modern brick building (object 3; machine brick 25x12x6 cm, cement and lime mortar). A – humus + subsoil; B – leveling and backfill layers. Photograph by P. Wlizło



Fig. 70. Main trench, part 4, northern profile. Photograph by P. Wlizło

Stratigraphy:

A – humus + subsoil, thickness up to about 15 cm;

 ${\bf B}$ – levelling layer in the form of various-grained sand and gravel, thickness from 40 to 65 cm;

C – levelling layer in the form of clay sand mixed with a small amount of charcoal, thickness up to about 55 cm;

D – undisturbed soil, glacial till.



Fig. 71. Main trench, part 4, southern profile. Photograph by P. Wlizlo

Stratigraphy:

A (C in Fig. 67) – layer of stone paving, thickness about 15 cm;

B (**D** in Fig. 67) levelling layer in the form of clay sand mixed with a small amount of charcoal, thickness approximately 40 cm;

C (E in Fig. 67) – undisturbed soil, glacial till.



Fig. 72. Excavation for checking the arrangement of calcite clays at the northern profile, part 4. Photograph by P. Wlizlo

3. Summary

The trenches made on the square in front of the palace in Janów were the first stage of a research project aimed at discovering an early-medieval cemetery associated with the Truso emporium. They were preceded by a detailed bibliographic search, which revealed important information about the discovery of a cemetery on the square in front the palace in Janów in 1868 (cf. chapter 1.4. Siegfried Anger's information about the discovery from 1868). The circumstances of the discovery of the cemetery during the surfacing of the square in front of the palace, as published by S. Anger, left no doubt that it was at least seriously damaged. Therefore, before the first archeological shovel was driven into the area, non-invasive geomagnetic surveys and full-core geological wells were made. Non-invasive identification of the future excavation site was necessary, mainly due to the lack of any starting point allowing to indicate the sites to be archeologically examined.

The analysis of the funeral rite carried out in section 1.2. Scandinavian graves in the cemeteries of the Elblag agglomeration showed that the presence of newcomers from the north in the western Baltic areas was a fact, which is particularly evident in the discoveries of graves of Scandinavian females made in the 1930s (among others, 35 Scandinavian graves were discovered at Pole Nowomiejskie in Elblag), as well as many other burials of Scandinavian character in other regions of Elblag. This allowed to focus the research apparatus on specific sepulchral structures, not excluding a certain specificity of the searched necropolis related to the trade, craft and port character of Truso (these issues are discussed in chapter 1.3. Settlement characteristics).

We should also mention the analogies, not considered in this report, concerning the location of cemeteries associated with other such emporiums – in Hedeby and Birka. In both port centres referred to here, the associated cemeteries were located respectively, in the case of Hedeby, to the southeast and northwest of the urban centre, and in the case of Birka to the north-west of the settlement. It does not take much imagination to connect the cemetery from Janów (Hansdorf) discovered in 1868, located exactly northwest of the located and largely researched Truso emporium, with the above-mentioned examples from Birka and Truso. This location would fit perfectly into the schemes existing in the Viking period regarding the central places, which also included Truso.

Having recognized the main conditions related to the cemetery, the excavation work was started. As indicated earlier (chapter 2 *Excavations*), the Main trench with parameters of 7x5.3 m was delineated in the place of clear and regular anomalies recorded during non-

invasive geophysical measurements (Fig. 20; Fig. 21; Fig. 23; Fig. 51; Fig. 52) where it was expected to reveal a fragment of a building with a rectangular base.

A principle of exploration within the separated parts of the trench has been adopted – part 1; part 2; part 3; part 4 (Fig. 53). This way of exploration allowed for the full recognition of stratigraphy as well as the character and chronology of the discovered objects, without the need to explore the entire surface when modern objects or layers were found. The purposefulness of such a method has been confirmed by the layers and objects revealed in particular parts (Fig. 54-71), which almost entirely came from the modern period, from late 19th century to the 1920s. (Fig. 73; Fig. 74; Fig. 75).

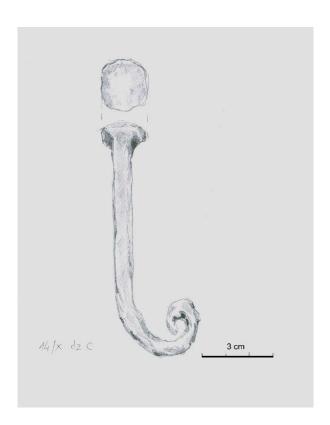


Fig. 73. Forged iron nail, square shank, round head (part 2, level C)

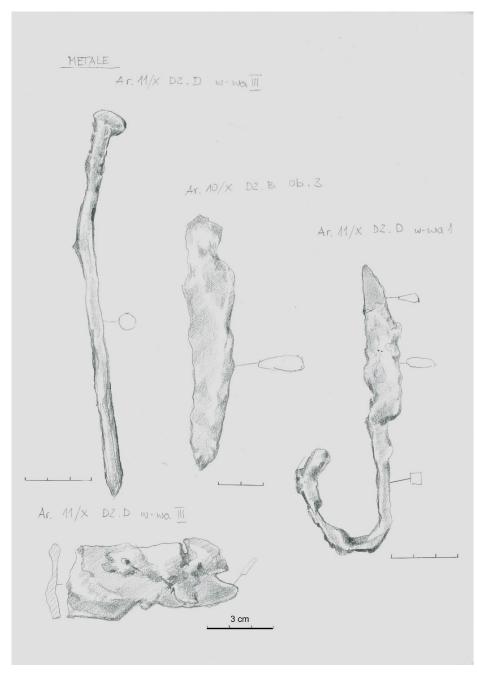


Fig. 74. Iron items found in part 2 of the Main trench at level "C" - machine iron nail, knife blades, hardware

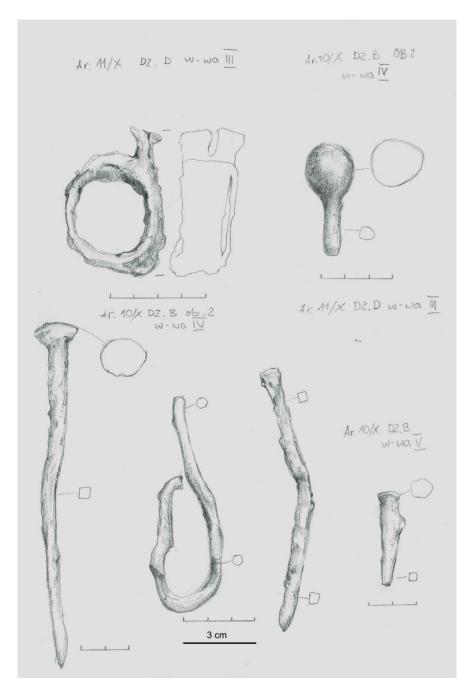


Fig. 75. Iron items found in part 3 of the Main trench at level "B" – upper part. Machine nails, hardware, wire

Only in part 3 of the trench, at level "B" in the lower part, there was a backfill layer where fragments of pottery from the fifteenth to seventeenth century were discovered (Fig. 76; Fig. 77; Fig. 78) and a bone with traces of processing (Fig. 79).

The artifacts presented below, in the form of fractions of ceramics and processed bone, were found during the exploration of the levelling layer, which should be strongly emphasized. It was not created as a result of human activity as a cultural layer, but was deposited here in the modern times (late nineteenth or early twentieth century) as a backfill

material – levelling the usable area. Hence the visible mixing of artifacts from different periods.

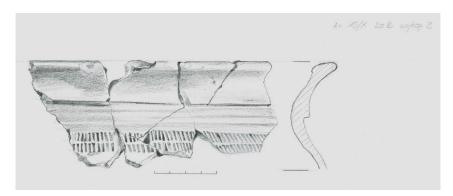


Fig. 76. Outlet of wheel-made clay vessel, reduction firing, 15th century. Part 3 of the Main trench at level "B" – lower part

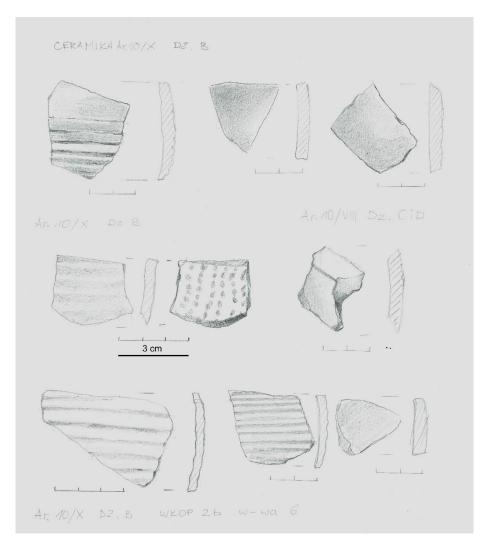


Fig. 77. Fragments of the bodies of wheel-made clay vessels, 15th - 17th century. Part 3 of the Main trench at level "B" - lower part

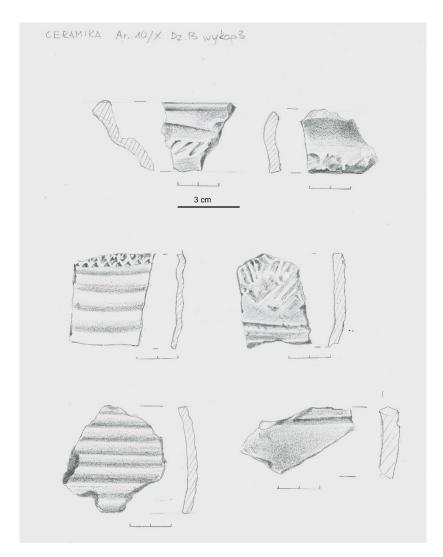


Fig. 78. Outlets and fragments of the bodies of wheel-made clay vessels, 15th - 16th century. Part 3 of the Main trench at level "B" - lower part

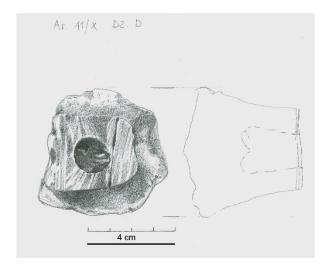


Fig. 79. Processed bone. Part 3 of the Main trench at level "B" – lower part

In the trench, apart from modern levelling layers, 3 objects could be identified:

- a pillar pit with partially preserved wood (part 1, object 1 Fig. 59; Fig. 60). It was probably the structural element of the shelter connected with the brick building discovered in part 4. Perhaps these are remains of the eastern outbuilding which in the 1920 enclosed the square in front of the palace from the east (Fig. 80) much like the one existing today, but built in the 1930s a few dozen meters to the east;
- stone paving, which occurred in different intensity on the entire surface of the trench (object 2 Fig. 58; Fig. 59; Fig. 61 level "E"; Fig. 62 level "C"; Fig. 63 northern fragment of part 2; Fig. 66) and is a testimony to the usable level of the land from the beginning of the 20th century; it can be assumed that it is contemporary to the remains of the outbuilding discovered in part 4;
- relics of brick walls of the utility building (object 3 Fig. 67; Fig. 68; Fig. 69; Fig. 70; Fig. 71). On the basis of the documented stratigraphy and the material used for erecting the walls (machine bricks with parameters of 25 x 12 x 6 cm, joined with cement and lime mortar), they may be dated to the 1920s.

The above presented interpretation of the relics of buildings discovered in the Main trench has its justification in analogous palace sites, where the squares in front of the palaces were much smaller, referring to the proposed, original size of the square in Janów (cf. Fig. 80, where the eastern, original range of the square is marked by a black line). In the case of such a reconstruction, the northern part of the square is closed by a granary and the southern part by a manager's house, forming an integral complex with the palace.



Fig. 80. View of the palace complex in Janów - a proposal to interpret the relics of the buildings discovered in the Main trench, as a utility building (coach house) originally enclosing the square in front of the palace from the east. Photograph by K. Rabiega

Parallel to the exploration of the Main trench, trial trenches were delineated and explored. The 11 trial trenches were located in different parts of the square in front of the palace, in such a way as to obtain a fairly complete picture of its stratigraphy. In all the trial trenches, after the removal of turf (humus) with a thin layer of subsoil, modern backfill layers occurred. These were small (usually from 20 to 40 cm) levelling layers, and were made up of building rubble, waste from the blacksmith's workshop and various-grained sands and gravels mixed with charcoal and mortar. Apart from building rubble and contemporary fragments of iron objects (mainly machine nails and wires), no artifacts were discovered in the trial trenches.

In the 7 trial trenches, undisturbed soil was reached (trenches 1-4 and 7-9; Fig. 27; Fig. 29; Fig. 31; Fig. 33; Fig. 42; Fig. 44; Fig. 47); this was the geological layer, which is the result of natural sedimentation processes occurring without any human impact. In our case it was either post-glacial till or compacted clay sand (also of glacial origin). The undisturbed soil ceiling level was similar in all the above-mentioned trenches (Fig. 81) and was characterized by a very even surface, giving the impression of being mechanically formed.

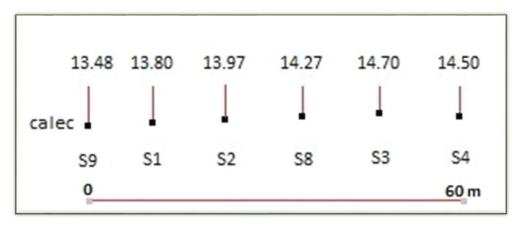


Fig. 81. Undisturbed soil ceiling level in the trial trenches (from the farthest west to the farthest east, in a 60 m linear arrangement). Values quoted in relation to sea level. Trial trench 7 and trial trenches where the undisturbed soil level was not reached (trenches 5; 6; 10; 11) are not included

The undisturbed soil ceiling thus formed occurred on most of the studied area and is probably the result of the surfacing carried out there in 1868, about which S. Anger (1878) informed. It can therefore be argued that the graves discovered during the surfacing (as reported by Plath, cf. chapter 1.4. Siegfried Anger's information on the discovery of 1868), were completely destroyed. In the course of these works, the layers associated with burials were removed, and the surfacing was carried out to a level lying well below the bottom of the cemetery layers and graves. Cemetery layers removed during the surfacing process and the ceiling of the undisturbed soil, which were composed of glacial till and compacted clay sands of glacial origin, were probably transported to a place unknown today – hence the complete lack of any traces of the cemetery in the square in front of the palace.

Interesting results were provided by trial trenches in which the undisturbed soil level was not reached despite exploration to a depth of about 2 m from the surface. These were trenches 5; 6; 10 and 11. Trenches 5; 6 and 10 are located in the northern part of the square. The absence of undisturbed soil at the depth of 2 m from the surface and the ground water appearing at this depth (the ceilings of layers containing building debris were often reached there – Trial trench 5; Trial trench 6; Trial trench 10) indicate that we are dealing here with a significant land depression, giving the impression of a natural ravine or an artificially dug moat. This would confirm the information of E. Kerstan (1925) about the fortified manor house built here earlier, on the site of which the palace, still existing today, was erected in 1866 on the initiative of Captain Adolf Eggert, then owner of the Hansdorf estate.

In further search for a cemetery associated with the Truso emporium, the information I obtained from the inhabitants of Janów back in the 1980s may prove useful. They concerned discoveries made in the 1960s during the construction of one-storey blocks of flats in the then existing PGR farm in Janów (Państwowe Gospodarstwo Rolne – State Agricultural Farm, a Polish variant of sowchoz, characteristic of the USSR economy). Human skeletons were discovered during earthworks related to the construction of these blocks. Unfortunately, the conservation services were not informed about this fact and it is not clear from what period the people buried there came. However, in the context of the above-mentioned discoveries from 1868, it can be assumed that a farther part of the cemetery associated with Truso was found at that time (Fig. 82).

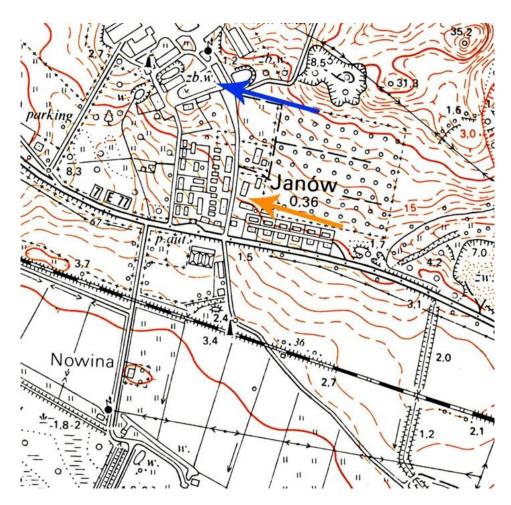


Fig. 82. Portion of topographic map in a scale of 1: 10 000 (sheet 326.134, Elbląg-Nowe Pole, OPGK Poznań 1992), which shows the buildings of the former Hansdorf estate and the PGR farm in Janów. The blue arrow indicates the place where skeletal graves were discovered in 1868; the orange arrow indicates the place where skeletal graves were discovered at the turn of the 1960s and 1970s. (prepared by: M. F. Jagodziński

4. References

Sources quoted

Hakluyt Richard, *The Principal Navigations, Voyages, Traffiques and Discoveries of the English Nation*, London 1598-1600. Polish edition (selection Henryk Zins): Richard Hakluyt, *Wyprawy morskie, podróże i odkrycia Anglików*. Translated from English by Monika Adamczyk-Garbowska, Wydawnictwo Morskie, Gdańsk 1988.

Orosius Paulus [Historiarum adversus paganos libri VII]: *Chorografia Orozjusza w Anglosaskim przekładzie króla Alfreda*, [in:] Źródła skandynawskie i anglosaskie do dziejów Słowiańszczyzny, Fontes Septentrionales, Vol. I, published by Gerard Labuda, PWN Warsaw 1961; *The old English Orosius*, [ed.] Janet Bately, Early English Text Society, suppl. ser. 6, London 1980; *King Alfred's Orosius, Part I: Old- English Text and Latin Original*, ed. Henry Sweet, Early English Text Society's Publications, Nr 79, London 1883.

References

Anger Siegfried

1878 Hr. Dr. Anger berichtet in einem Schreiben vom 23. März 1878 über Ausgrabungen In der Gegend von Elbing, "Zeitschrift für Ethnologie" Zehnter Band, Berlin, pp. 198-199.

Auch Michał, Bogucki Mateusz, Trzeciecki Maciej

2012 *Osadnictwo wczesnośredniowieczne na stanowisku Janów Pomorski 1*, Studia nad Truso I:2, ed. Beata Jurkiewicz, Mateusz Bogucki, Elblag, pp. 124-165.

Bogucki Mateusz

2017 Pruskie, skandynawskie czy słowiańskie? Uwagi o przynależności etnicznej mieszkańców emporium Truso, [in:] Między Jutlandią a Sambią. Truso w kontekście badań południowo-zachodniej strefy basenu Morza Bałtyckiego w okresie wikińskim, ed. M. F. Jagodziński, Studia nad Truso III:2, Elbląg, pp. 105–134.

Brather Sebastian, Jagodziński Marek F.

2012 Der wikingerzeitliche Seehandelsplatz von Janów (Truso). Geophysikalische, archäopedologische und archäologische Untersuchungen 2004–2008, mit Beiträgen von M. Bogucki, S. Brather-Walter, N. Buthmann, P. Kühn, H. Steuer und B. Zickgraf, Bonn.

Callmer Johan

1994 Early urbanism in Southern Scandinavia ca. 700-1100 AD. Trading places, central settlements and new model centres in continuity change, "Archeologia Polona", 1994, vol. 32, pp. 73-93.

Carstenn Edward

1911 Zur Geschichte der Trusoforschung, "Altpreussische Monatschrift", Bd. XLVIII, pp. 37-63).

Chudziak Wojciech

1999 Ze studiów nad pograniczem słowiańsko-bałtyjskim we wczesnym średniowieczu. Problem przynależności etnokulturowej Pomezanii w IX-XI wieku [in:] Pogranicze polsko-pruskie w czasach św. Wojciecha, ed. M. F. Jagodziński, Elbląg, pp. 81-98.

Dorr Robert

- 1888-1891 Bericht über die Tätigkeit der Elbinger Altertumsgesellschaft im Vereinsjahr 1886/87, "Schriften der Naturforschenden Gesellschaft zu Danzig", Bd. VII, H. 1, pp. 21-22.
- 1894 Übersicht über die prähistorischen Funde im Stadt- und Landkreise Elbing, "Beilage zum Programm des Elbinger Real-Gymnasiums", teil I, II, Elbing.
- 1898 Die Gräberfelder auf dem Silberberge bei Lenzen und bei Serpin, Kr. Elbing aus dem V-VI Jahrhundert[in:] "Festschrift der Elbinger Altertumsgesellschaft zur Feiner Ihres Frünfunndzwanzigjärigen Besteheus", Elbing, "Schriften der Naturforschenden Gesellschaft zu Danzig", Bd. X, H. 1.
- 1914 Das Vorgeschichtliche Gräberfeld von Benkenstein Freiwalde, Kr. Elbing (700-1150 n.Chr.), Mittelungen des Coppernicus Vereins für Wiss., und Kunst zu Thorn, H. 22, pp. 2-26.

Duczko Władysław

1997 Scandinavians in the Southern Baltic between the 5th and the 10thcentury A.D., [in:] Origins of Central Europe, edit. P. Urbańczyk, Warszawa, pp. 191-211.

Ebert Max

1926 *Truso*. "Schriften der Königsberger Gelehrten Gesellschaft", Geisteswissenschaftliche. Klasse, Jg. 3, H. 1. Berlin.

Ehrlich Bruno

1920 Bericht über die Tätigkeit der Elbinger Altertumsgesellschaft in den Vereinsjahren 1915/1916 bis 1918/1919, "Elbinger Jahrbuch", H. 1, pp. 151-214.

- 1931 Schwerter mit silberbeschlagenen Scheiden von Benkenstein, Kr. Elbing, und einige west- und ostpreussische Vergleichsstücke, "Prussia" 29, pp. 16-47.
- 1932 Elbing, Benkenstein und Meislatein. Ein neuer Beitrag zur Trusoforschung, "Mannus" 24, Heft 1-3, Leipzig, pp. 399-420.
- 1936 Das Städtische Museum in den Jahren 1932-1935, "Elbinger Jahrbuch" 12/13, Elbing, pp. 236-243.
- 1937a *Der preußisch-wikingische Handelsplatz Truso*, "Elbinger Jahrbuch" 14/1, 1937, pp. 1–17.
- 1937b Germanen und Altpreussen auf dem Boden Elbings. Die Scharnhorststrasse als vorgeschichtliches Siedlungsgebiet, "Germanen- Erbe", Jahrgang 2, H. 9/10, September Oktober, pp. 268-277.

Gloger Kurt

1943 Germanen in Osteuropa. Versuch einer Geschichte Osteuropas von den Unfängen bis zum Beginn des 13. Jahrhunderts. "Mannus-Bücherei", Leipzig.

Haftka Mieczysław

1973 *Wczesnośredniowieczne uzbrojenie żelazne z grobu ciałopalnego z Elbląga*, "Rocznik Elbląski", volume 6, pp. 21-32.

Jagodziński Marek F.

- 1997 Archeologiczne ślady osadnictwa między Wisłą a Pasłęką we wczesnym średniowieczu. Katalog stanowisk, [in:] Adalbertus, volume 3, ed. P. Urbańczyk, Warsaw.
- 1998 Archeologiczne ślady osadnictwa między Wisłą a Pasłęką we wczesnym średniowieczu. Komentarz do katalogu stanowisk, [in:] Adalbertus, volume 1, ed. P. Urbańczyk, Warszawa, pp. 159-197.
- 1999 Rejon ujścia Wisły we wczesnym średniowieczu. Struktura zasiedlenia i stosunki etniczne, [in:] Pogranicze polsko-pruskie w czasach św. Wojciecha, ed. M. F. Jagodziński, Elbląg, pp. 35-79.
- 2009a *The settlement of Truso*, [in:] Wulfstan's Voyage. The Baltic Sea region in the early Viking Age as seen from shipboard, ed. A. Englert, A. Trakadas, Roskilde, pp. 182–197.
- 2009b Zagadnienie obecności Skandynawów w rejonie ujścia Wisły we wczesnym średniowieczu, "Pruthenia" 4, 2009, pp. 117–192.
- 2010 Truso. Między Weonodlandem a Witlandem, Bydgoszcz 2010.

- 2017 Janów Pomorski stan 1. Struktura i zabudowa strefy portowej. Wyniki badań archeologicznych w latach 1982-1991, Studia nad Truso III:1, ed. Marek F. Jagodziński, Elbląg.
- 2019 *Truso jak bardzo skandynawskie?* [in:] Wikingowie w Polsce?, ed. M. Bogacki, A. Janowski, Ł. Kaczmarek, Gniezno, pp. 145-153.

Kirpičnikov Anatol N., Jagodziński Marek F.

2006 *Wczesnośredniowieczny miecz znaleziony w Elblągu*, [in:] Świat Słowian wczesnego średniowiecza, ed. M. Dworaczkowa, A. B. Kowalska, S. Moździoch, M Rębkowski, Szczecin - Wrocław, pp. 437-442.

Kamińska Janina

1959 *Sprawozdanie z działalności badawczej Stacji Archeologicznej w Gdańsku w 1956 r.*, "Sprawozdania Archeologiczne volume 7, pp. 35-48.

Kerstan Eugen Gustav

1925 Die Geschichte des Landkreises Elbing, Elbing.

Kolberg Augustin

1878 Wulfstan Seekurs für die Fahrten von Schleswig nach Truso an der Wahrmischen Küste von Preussen im 9 Jahrhundert, "Zeitschrift f. d. Geschichte und Altertumskunde Ermlands", Bd. VI, pp. 1-75.

Kulakov Vladimir I.

2005 Die wikingerzeitliche Siedlung und das Gräberfeld Kaup bei Wiskiauten. Bericht über die Ausgrabung der Jahre 1956-2004, Offa-Zeitschrift, Bd. 59/60, 2002/2003, Hrsg. v. C. von Carnap-Bornheim, J. Müller u. U. Müller, pp. 55-79.

Labuda Gerard

1961 Chorografia Orozjusza w anglosaskim przekładzie króla Alfreda, [in:] Źródła skandynawskie i anglosaskie do dziejów Słowiańszczyzny, ed. G. Labuda, PWN Warszawa, pp. 7-118.

Łosiński Władysław

2000 Pomorze - bardziej słowiańskie czy bardziej "bałtyckie"?, [in:] Salsa Cholbergiensis.
Kołobrzeg w średniowieczu, ed. L. Leciejewicz, M. Rębkowski, Kołobrzeg, pp. 119-141.

Łowmiański Henryk

1957 Zagadnienie roli Normanów w genezie państw słowiańskich, PWN Warszawa Mazur Adam, Nosek Elżbieta

1973 Wyniki badań metaloznawczych znalezisk żelaznych z Elbląga, Rocznik Elbląski, volume 6, pp. 4-19.

Mielczarski Stanisław

1963 Truso. Historia badań i problemy metodologiczne. Opis podróży Wulfstana do Truso. Stosunki hydrograficzne i osadnicze w delcie Wisły w IX w. Lokalizacja Truso i dzieje osady. Zakończenie, "Rocznik Elblaski", vol. 2, pp. 3-36.

Mühlen Berndt von zur

1975 *Die Kultur der Wikinger in Ostpreussen.* "bonner hefte zur Vorgeschichte" Nr. 9, Bonn, pp. I-VI, pp. 1-287.

Neugebauer Werner

- 1937a Die Bedeutung des wikingischen Gräberfeldes in Elbing für die Wikingerbewegung im Ostseegebiet, "Elbinger Jahrbuch" 14/1, pp. 19–28.
- 1937b Germanen und Altpreussen auf dem Boden Elbings. Die Scharnhorststrasse als vorgeschichtliches Siedlungsgebiet, "Germanen- Erbe", Jahrgang 2, H. 9/10, September Oktober, pp. 268-277.
- 1938 *Das wikingische Gräberfeld in Elbing*, [in:] Altpreußen-Vierteljahresschrift für Vorgeschichte und Volkskunde, Jg. 3, H. 1, pp. 2-6.
- 1975 Von Truso nach Elbing. Leitlinien der Frühgeschichte des Elbinger Raumes, [in:] "Elbinger Hefte", Bd. 34, pp. 9-49.

Neumann Ferdinand

- 1854 Über die Lage von Wulfstans Truso, Wislemund und Witland, Die Namen Nehrung, Nogat, Weichsel, "Neue Provinzial Blätter", H.6, pp. 290 326, 385 398, 411 416.
- 1944 *Das wikingische Gräberfeld von Elbing-Neustädterfeld und die Lage Trusos*, Bericht über die Kieler Tagung 1939, Forschungs- und Lehrgemeinschaft "Das Ahnenerbe", Neumünster 1944, pp. 154-161.

Nowakowski Wojciech

2006 Korzenie Prusów. Stan i możliwości badań nad dziejami plemion bałtyjskach w starożytności i początkach średniowiecza, "Pruthenia", volume I, pp. 11-40.

Odoj Romuald

1970 *Dzieje Prusów do czasów krzyżackich*, "Komunikaty Mazursko-Warmińskie" Nr 1 (107), Olsztyn, 1970, pp. 51-65;

Toplak Matthias S.

2015 Prone Burials and Modified Teeth at the Viking Age Cemetery of Kopparsvik: The Changing of Social Identities at Threshold of Christian Middle Ages, "Analecta Archeologica Ressoviensia", vol. 10, pp. 77-97.

Urbańczyk Przemysław

2002 Wczesna urbanizacja ziem polskich, [in:] Civitas & Villa. Miasto i wieś w średniowiecznej Europie, ed. C. Buśko, J. Klápště, L. Leciejewicz, S. Moździoch, Wrocław-Praha, pp. 37-47.

Wiliams Gareth, Penz Peter, Wemhoff Matthias, ed.

2013 Viking, National Museum of Denmark.

Welc Fabian (GEO ARCHEO SERVICE)

2010 Magnetic and geo-radar identification of the area around the palace and utility site in Janów Pomorski (registered as immovable monument no. A - 1217), Warsaw, June 2020

Wróblewski Wojciech

2006 Aschenplätze – the forgotten burial rituals of the Old Prussians," Archeologia Lituana", vol. 7, Vilnius, pp. 221-234.