ZWISCHEN BYZANZ UND DER STEPPE
Archäologische und historische Studien
Festschrift für Csanád Bálint zum 70. Geburtstag

BETWEEN BYZANTIUM AND THE STEPPE
Archaeological and Historical Studies in Honour of Csanád Bálint on the Occasion of His 70th Birthday

INSTITUTE OF ARCHAEOLOGY
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Csanád Bálint in Istanbul, in front of the finds brought to light during the excavations preceding the underground construction (2013)
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The article addresses some aspects of the research on one section of Polish – Ruthenian borderland, viz. Cherven Towns. The terms Cherven Towns and Cherven appear in Russian Primary Chronicle in the description of events from AD 981, 1018 and 1031. Cherven Towns should most probably be identified as the area of the middle Bug River and its left tributary – Huczwa river (the stronghold in Czermno is most probably Cherven itself). The article focuses on presenting the oldest feature (from the Middle Ages) so far found in Czermno, i.e. Late Avar belt fitting which was encountered while exploring the rampart. A stir of 2014 and 2015 was caused by finding two gorgeous hoards: one containing silver ornaments (Perespa, site No. 81 [2014]), and the other with silver ornaments together with glass and stone beads (Perespa, site No. 85 [2015]). Both hoards were found in immediate hinterland of the stronghold development in Czermno. The moment of hiding the hoards should be dated to around the second half of the 10th and the beginning of the 11th century. Both hoards have so far been only preliminarily investigated, but they shed some amazing light on the early history of Czermno/Cherven.

Keywords: Poland; Rus; Cherven Towns; Avars; Byzantine coins; jewellery; hoards

INTRODUCTION

A Polish archaeologist who deals with the 2nd half of the first millennium after Christ may only flick jealously through the publications of his/her colleagues in Hungary. A short series of poorly equipped burials known from Polish territory from the 6th to the 10th century can be juxtaposed with thousands of richly equipped graves of the people of Bayan or Árpád. Even though Poland of

1 The present contribution was written within the project: Złote jabłko polskiej archeologii. Zespoły grodowe w Czermnie i Gródku (Grody Czerwienińskie) – chronologia i funkcja w świetle badań dawnych oraz weryfikacyjnych / The Golden apple of Polish archaeology. Stronghold complexes at Czermno and Gródek (Cherven towns) – chronology and function in the light of past and current research (Ministry of Science and Higher Education, Warsaw, NPRH, Project No. 12H 12 0064 81).

2 ZOLL-ADAMIKOWA 1979, 141–158; PARCZEWSKI 1993, 116. The only necropolis from Poland, unambiguously dated back to the 10th century, where the burials are richly equipped is an Old Magyar cemetery in Przemyśl, see KOPERSKI–PARCZEWSKI 1978; KOPERSKI 1996.

tribal times does not lack hoards of jewellery, not a single set reminding that of Nagyszenmiklós / Sânnicolau Mare has been found.4

The most important archaeological source used to reconstruct Polish history of the 10th century are gords, i.e. fortified settlements. The use of dendrochronological dating method allowed to precisely date the exact moments of erecting particular strongholds, which in turn influenced to a great extend our knowledge about the beginnings of the Piast state.5

Today we know quite a lot about the tribal period and the beginning of the Piast state in Greater Poland,6 in Silesia7 or in Lesser Poland.8 However, our knowledge of what today is eastern Poland between the 6th and the 13th century, in particular on the borderline between Poland and Rus (Ruthenia), is much more limited.

Csanád Bálint aptly pointed to the dependence of archaeology on the contemporary events or political trends.9 It is largely due to the negative influence of the politics or rather to the history of the 20th century that the history of eastern Poland in the Middle Ages was poorly investigated.

As a result of World War II a radical change of Polish borders had place. Due to this Poland lost lands to the east of the Bug River and in turn took the lands to the east of the Oder and Lusatian Neisse rivers.10

In view of the loss of Vilnius and Lviv11 by Poland, Lublin was the only scientific centre to the east of the Vistula River, which functioned in Poland in the years 1944/45 – 1989.12 The archaeological centre in Rzeszów has only been operating since 1999.13

The authorities of Polish People’s Republic were mostly concerned in the research in western Poland (Silesia, Pomerania, Greater Poland), mainly because the Slavicity/proto-Polishness of relics discovered here was to serve as a justification of the rights of post-war Poland to the border on the Oder and Lusatian Neisse.14 A therapeutic role of this research was also important: highlighting the Slavicity of Silesia or Pomerania was supposed to facilitate the integration in those areas of the Polish population that had been evicted from their own little homelands in today western Ukraine, Belarus or in Lithuania.15

In turn, the research in the east of Poland required the cooperation with scholars from the USSR. This cooperation was very difficult, due to the Polish-Ukrainian conflict from the World War II,16 the obsessive suspicion of the USSR authorities against the “strangers”, and a generally negative Polish opinion about Russia/the Soviet Union.17

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4 See more about the set in Bálint 2010, currently Daim–Gschwantler–Plattner–Stadler 2015.
5 For general introduction to the archaeology and history of Medieval Poland see Buko 2008; Berend–Urbańczyk–Wiszewski 2013.
6 Kara 2009; Kara 2015.
8 Polski 2010; Polski 2013.
10 For a synthetic image of the events of the time, well illustrated with maps, see Hryciuk–Ruchniewicz–Szynok–Zbiowski 2009; see also Eberhardt 2011.
11 It should be pointed out that Lviv was one of the most important archaeological centres of the Second Polish Republic, after 1945 the archaeological centre in (already Ukrainian) Lviv was totally marginalised, see Sytnyk 2006.
12 For archaeology in Lublin see Gurb–Libera 2007.
13 Czopek forthcoming.
16 On the one hand the massacre of the Polish population during WWII in the area of present western Ukraine, mainly Volhynia, and on the other hand - the resettlement of the Ukrainian population from south-east Poland to the areas in north-west, the so-called Operation Vistula (1947), see Snyder 2010, 326–329.
17 For more on the history of the research on Cherven Towns see Wołoszyn 2012.
It can be stated that – paradoxically – the dominance of the USSR led Polish Medieval studies rather toward the West and not to the research on Ruthenia/Russia. This observation is certainly accurate in the case of Polish archaeology, in which the research on the Byzantine and Ruthenia has currently (i.e. after 1989) enjoyed a growing popularity.

At the same time in Byzantine studies we observe a clear increase in the importance of the research on the material culture, including archaeology. It is characteristic that an increasingly important role in the development of Byzantine archaeology is played by researchers who are not formally Byzantine specialists but “merely” archaeologists from France, Germany, or the UK, who are interested in the identification of Byzantine impacts on their own countries. Also, the researchers from East Central Europe, including Hungary, play an important role in this process. As recently stated by Florin Curta “In fact, the last two decades or so have witnessed an extraordinary progress of the archaeological understanding of the Byzantine influence on the lands of the East Central Europe. Hungarian archaeologists have been the pioneers of this movement to colonize with solid scholarship the uncharted territory of this most neglected part of the medieval past.”

A key role in the process of creating this “solid scholarship” in the archaeology of Byzantine was and still is played by Cs. Bálint.

We hope that in this context, the respectable Jubilarian will find the essay on the Polish-Ruthenian borderland of interest. It seems that the archaeology of this area can become another important field of research on the material heritage of the Byzantine Empire, and especially of the Byzantine Commonwealth regarding in particular 11th–13th century. The studies on the region of Cherven Towns will play an important role here.

The remarks presented below will be devoted to the earliest stage of the functioning of this area, and Czermno will be the focus point of our research.

**CHERVEN TOWNS – HISTORY**

The term Cherven Towns appeared in the Russian Primary Chronicle in the description of the expedition of Boleslaw Chrobry from AD 1018 and Yaroslav the Wise from AD 1031 (chervenskya gorody, chervenskya grady).

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18 For Hungarian Medieval studies in this context see Bak 2001, 54.
20 For Byzantine archaeology see Wołoszyn 2006; currently Bollók 2015.
21 Ewald Kislinger aptly drew attention to this during the 22nd International Congress of Byzantine Studies in Sofia in 2011, see Kislinger 2012.
22 Curta 2015, 27.
23 Curta 2015, 26–27.
In turn, in the year 981 (6489) the following sentence can be found: “Vladimir marched upon the Lyakhs and took their cities: Peremshl, Cherven, and other towns, all of which are subject to Rus even to this day”.25

Enormous literature has been devoted to the nature of the problem of Cherven Towns and their location in particular. The location of Cherven Towns is facilitated by the reference to Peremshl in the mention from AD 981, which can be identified with Przemysł,26 Cherven should then be relatively close by. Its identification with ramparts in Czermno on Huczwa was proposed almost 200 years ago by Zorian Dolega-Chodakowski (Adam Czarnocki; 1784–1825)27. There are many other reasons to believe this is a correct assumption, in particular the description of Polish-Ruthenian battles from AD 1266 in Galician-Volynian Chronicle, as indicated by Stefan Maria Kuczyński.28

In this article, it has been assumed that the region of Cherven Towns is the area in the vicinity of what is today known as Czermno, in the middle Bug River basin, principally on its left bank.29 An important role could also have been played by a fortified settlement in Gródek - in the early Middle Ages it was called Volhynia, as confirmed by Jan Długosz (Fig. 1).30

One of the earliest accounts concerning the region of middle Bug is Russian Primary Chronicle, which informs us about the tribes that settled in the middle Bug basin and of the incursions of the Avars into these areas.31

According to some of the Polish historians, at the time (9th–10th century) the Lendians are supposed to have lived in the areas of the San river and the middle Bug River (their lands/inhabitation spread also further to the east, all the way to the Pripyat River). It is this name – the Lendians, from which Hungarian name of Poland is derived.32

In the second half of the 10th century, several political centres were interested in winning over the region of Cherven Towns: apart from the Piast dynasty also the Rurik dynasty should be mentioned here, as well as the Czech Přemyslids dynasty. It seems that the borders of Poland (Piast state) in the second half of the 10th century was to the west of the Bug River so they did not include Cherven Towns. The expedition of prince Vladimir that is entered under AD 981 in Russian Primary Chronicle could have targeted the Lendians, at that time still independent from Poland or from Rus. It was not until the increase of international position of Poland in the period of Boleslaw Chrobry and the weakening of Rus after the death of Vladimir the Great in AD 1015 that Polish intervention in Kiev in 1018 took place. The expedition resulted in incorporating the region of Cherven Towns to the Piasts’ dominion. At this time the Bug River was a borderline: Polish-Ruthenian battles of the year 1018 took place exactly over this river.

The crisis of the Piasts monarchy in the thirties of the 11th century led to the loss of Cherven Towns by Poland in 1031.

28 The Galician-Volynian Chronicle a. 6776 (1268): Perfecky 1973, 85; in fact 1266 (properly dated by A. Jusupović – whom we would like to thank for oral information), see KUCZYNSKI 1965, 86–87.
29 However, it should be acknowledged that the above mentioned identification are hypothetical, see Tyszkiewicz 2004; for Cherven Towns, see now also KOLLINGER 2014, esp. 267–285; JUSUPOVIC forthcoming.
31 “The Dulebians dwelt along the Bug, where the Volhynians now are found [...]”, see Russian Primary Chronicle: Cross 1930, 141; “The Avars, who attacked Heraclius the Emperor and nearly captured him, also lived at this period. They made war upon the Slavs, and harassed the Dulebians, who were themselves Slavs. They even did violence to the Dulebian women. When an Avar made a journey, he did not cause either a horse or a steer to be harnessed, but gave command instead that three or four or five women should be yoked to his cart and be made to draw it. Even thus they harassed the Dulebians. The Avars were large of stature and proud of spirit, and God destroyed them. They all perished, and not one Avar survived.” see Cross 1930, 140–141.
32 See Labuda 1981; Parczewski 2007; see also Wołoszyn 2013, 75–81; Wołoszyn et al. 2015, 177–180.
The expeditions to Kiev led by Boleslaw Szczodry (1058–1079) that were undertaken in the years 1069 and 1077 could have resulted in re-incorporation of Cherven Towns to Poland, however no (written) sources confirm this fact.

Of course between the 12th and the 14th century lands on the Bug River (and further to the east) remained within the sphere of interests (expansion) of the Piasts – especially their Lesser Poland (and Mazovian) branches. From the late 12th century representatives of the Hungarian Arpads became increasingly more active in the region.\textsuperscript{33} It is worth emphasizing that Ruthenian side was not merely a passive “subject of interest” of Polish or Hungarian rulers. Rus princes – especially Roman († 1205) and of course Daniel († 1264) were active players in the region.\textsuperscript{34}

Finally, in the 14th century Poland under the rule of Kasimir III the Great (1333–1370) became the winner of the competition over the western lands of Kievan Rus, dramatically impaired by the Tatar invasion. After the end of the Piast dynasty (1370) and a short-term rule of Ludwik the

\textsuperscript{33} See esp. papers by Márt\'{a} Font, currently Font 2013, 111–156.
\textsuperscript{34} Nagirny\'j 2011; D\'{a}bkowski 2012.
Hungarian, Jagiellonians took over the throne in Cracow (1385–1386), which eventually affixed turning of Poland to the east. The Bug River once again became the border as the result of the partitions of Poland toward the end of the 18th century and finally after the World War II.35

Historians have often pointed to the archaeological research as the remedy for the ambiguity of written sources relating to the early phase of the Cherven Towns. Unfortunately, the state of the research of both the features (the strongholds in Czermno and Gródek) is so unsatisfactory that we will have to wait for a full archaeological verification of historians’ assessment.

The Cherven Towns have been investigated in regular archaeological excavation on a number of occasions, e.g. Czermno in 1940, in 1952–1955, in 1976–1979, 1985 and finally, in 1997. It is regrettable that most of the findings from these research projects have never been published and hence they are not more widely known.36

The complex in Czermno (Fig. 2) consists of the remains of a stronghold and of a group of open settlements located on a marshy bank of the Huczwa river. There are more of these open

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35 For the general overview of the history of the eastern border of Poland (with many maps), see Wołoszyn 2012.

36 Florek 2012; Wołoszyn 2012.
settlements to the north of Huczwa. The area of the entire complex is estimated to cover between approximately 75 and 150 hectares; some part of this area is marshy and waterlogged. A fortified settlement beyond the walls closest to the stronghold (Czermno, site No. 2) and the so-called “further” open settlement beyond the walls (Czermno, site No. 3) are both situated to the west of the earthwork, and separated by a stretch of lower lying ground. Both sites were excavated in the late 1970s, which provided data on the stratigraphy (cultural layers and features), the presence of the ramparts and causeways (site No. 2) and a large number of artefacts. In addition to this, an inhumation burial cemetery dated to 11th–13th century was discovered in the “further” settlement beyond the walls.

In 1985 a discovery of relics of timber causeways was made to the north-west of the rampart (presumably they linked open settlements established on the holms rising from the marshy valley of the Huczwa). These causeways were dated using dendrochronological method to the period between the 12th and the 13th century, but the results of the most up-to-date research prove that the commencement of the construction works was at the end of the 10th century.

An archaeological field survey with 3D mapping of the finds was made at Czermno in 2010 and 2011. It resulted in the recording of almost 2500 archaeological objects. The most spectacular finds are two extraordinary hoards of medieval jewellery discovered inside the stronghold some 20 m apart from each other. Probably the most outstanding category in this group are Dorogichin type seals (404 specimens). We have reasons to believe that they were used in commerce. Moreover, there were also devotional objects (20 encolpia, 21 metal cross-pendants), 104 arrowheads, and several hundred ornaments and dress accessories.

There is no doubt that between the 11th and the 13th century Czermno was a stronghold of Western Rus. In this period Czermno was for sure more than just a military lookout: the number of devotionals, lead seals and Dorogichin type seals forces us to treat it as a local civilization centre of the Polish–Rus borderland, a vast settlement complex of major commercial importance.

The matter of the functioning of the region of the Cherven Towns in 10th–11th century remains to be the greatest mystery.

The current investigations of the Cherven Towns area were started in 2008 as a cooperation between the Leipzig Centre for the History and Culture of East Central Europe (GWZO, Leipzig, Germany), the Institute of Archaeology and Ethnology of the Polish Academy of Sciences (Cracow–Warsaw), the Institute of Archaeology of the University of Rzeszów, and the Institute of Archaeology of the Marie Curie-Skłodowska University in Lublin.

The aim of the project is to make a scholarly analysis of the findings from the previous archaeological investigations of the sites at Czermno and Gródek. Another task of the project is fieldwork: a geography field survey aimed at making a reconstruction of the early medieval natural
Fig. 3. Czermno (Cherven), Tomaszów Lubelski district, Lubelskie voivodeship, Poland. Current research (photo: M. Gala, Z. Cozac Media Promocja; map: P. Zagórski): a. the early medieval stronghold during excavations (September 2014); b. contemporary map of the early medieval settlement complex in Czermno (selected sites) with the location of the excavations areas.
environment in the region of Czermno and Gródek, an archaeological non-invasive survey of both sites, and, most importantly, determining a reliable chronology of the rampart in Czermno.

CHERVEN TOWNS – CURRENT RESEARCH

Since 2013, fieldworks have been carried out in Czermno within the framework of the project The Golden apple of Polish archaeology...41 (Fig. 3). During the first season the cemetery on site No. 3 was investigated (12th–13th century).42 Between 2014 and 2015 the rampart of the stronghold was the focus of the research (site No. 1). In 2014, site No. 70, just over the Huczwa river, was also studied. A wooden construction was discovered here (maybe a causeway?) erected – as evidenced by dendrochronological dating – after the year 999.43 Palaeogeographers’ works have very wide range as they aim at the reconstruction of the natural environment in the vicinity of the medieval Czermno.44

In the course of the research of the stronghold rampart (cf. Fig. 3) 151 stratigraphic units were distinguished, documenting stages of the construction of the fortification and the two phases of its expansion. It is estimated that in the 11th century the basis of the rampart was 25-30 m wide and its height exceeded 10 m. During the excavation, 105 samples for radiocarbon dating were collected along with 15 samples for dendrochronological dating. The dating was carried out by Marek Krąpiec, and the results allow to correlate the construction of the oldest rampart with the end of the 10th century.45

The Avars in Czermno?

Among the archaeological artefacts found in the rampart the oldest ones is the Avar belt fitting. It comes from the earth bank of the rampart (from its outer layer part).

Fitting made of bronze should be classified as a typical element of the culture of the Late Avar Period: shield-shaped openwork fitting decorated with the motif of tendrils in symmetrical arrangement; height 35.3 mm; width 21.6 mm. The reverse is smooth, with very well preserved rivets. No traces of gilding (Fig. 4).

Spots with removed corrosion were selected to perform chemical analysis using SPECTRO MIDEX and implementing X-ray fluorescence spectroscopy method. The results are presented in mass fraction (see Table 1). The fitting is a cast openwork of tin bronze (i.e. copper and tin alloy). Thanks to high content of tin (16.45% Sn) it was harder and more wear-resistant. The dark spots visible on both the obverse and reverse of the fitting that were not removed during the conservation work are of organic origin (leather, fabric). The rivets remaining in the fitting are, in turn, made of copper, i.e. metal that is much softer and was easily hammered at the ends into desired shape.

According to the classification of Jozef Zábojník, the artefact discovered in Czermno should be classified as type No. 245, dated for 750-780, the SS III phase.46 Similar artefacts are known from Avar cemeteries in the present day Hungary, e.g. Alattyán, grave No. 26747 or Tiszafüred, grave No.

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41 See n. 40 above.
43 Wolożyn et al. 2016.
44 Wolożyn et al. 2015.
46 Zábojník 1991, 239, Pl. 40.2.
47 Kovrig 1963, 30, Pl. XX.267, LX.
1221, they are also found in the area of Lower Austria as stray finds. This group also includes an artefact from Poland, namely Silesia (Syrynia). So does the artefact discovered in Czermno prove – contrary to the radiocarbon and dendrochronological dating – that the reinforcement construction was erected in the 8th century? Rather not.

Until 2008, 37 sites dated broadly to Early Middle Ages (6th–13th century; see Fig. 5) had been found in the vicinity of Czermno. Only few of them (10) can be correlated with 8th–10th century. This dating is confirmed by the potsherds obtained both from the surface surveys of the sites, and archaeological excavations, which were undertaken on six of them. Open settlements were located within river valley on terraces rising above floodplains. Usually they cover the area of between 1 to 48

| Fig. 4. Czermno (Cherven), Tomaszów Lubelski district, Lubelskie voivodeship, Poland. Late Avar belt fitting discovered during the excavations at the rampart (drawing: J. Ozóg; photo: M. Wołoszyn) |
| (a–b. spots of the chemical analyses) |
5 ha. The presence of small finds from 11th–13th century at 7 of these sites confirm the continuation of their inhabitation also in the early kingdom period. It cannot be precluded that the earth used for the erecting the rampart was obtained from ruined settlements – such action would have been dictated by the lack of available sources of soil for the construction in the vicinity of the stronghold, which after all was located in soggy terrain.

Discovered by us artefact supplements the list of Avar products in the areas to the north of Avar Khaganate. Jacek Poleski recently mentioned 41 artefacts, the appearance of which in the Polish lands can be associated with the Avar Khaganate. However, he makes a distinction between the
Fig. 6. Sites with Avar finds (including alleged Avar) and selected Early Byzantine coins (issues after the reign of Justinian I [r. 527–565]). Avar finds after POLESKI 2009, Fig. 1 (the list is amended with the belt fitting from Czermno, presented in this paper); coins after WOŁOSZYN 2009, Fig. 9 (the list is amended with the find from Talty) (map: I. Jordan).

artefacts of certain Avar origins (26 pieces) and the ones with ambiguous provenance (Fig. 6).\textsuperscript{53} Of course, the artefact from Czermno belongs to typical Avar finds, and hence it adds to the list, thus increasing the number of known items of this kind to 27. The discovery is of an additional importance: so far only a series of Avar artefacts from Gródek and Swaryczew have been known from eastern Poland.\textsuperscript{54} Artefacts from both sites were discovered by amateurs, who penetrated archaeological sites with metal detectors. Fitting from Czermno is the first from the region of the middle Bug River, which was discovered during regular archaeological excavations.

Information from \textit{Russian Primary Chronicle} concerning the Avar incursions on East-Slavic Dulebes who supposedly resided in the areas of the middle Bug River have already been quoted. Certainly, many elements from the stories recorded in the Chronicle are questionable, as proved by Arnulf Kollautz.\textsuperscript{55} Of course, a considerable distance separating the areas between the Bug River and the Carpathian Basin does not preclude the rallies organized by the people of Bayan. The abilities of nomads in this respect are confirmed by expeditions of the Huns and of the Magyars well known from written sources. They are also perceptible in archaeological sources.\textsuperscript{56} Of course, it is well understood that not each and every find, for instance, from the Baltic shores that has analogues in the area of the Carpathian Basin is the evidence of a deep incursion of subjects of Attila or Árpád.\textsuperscript{57} At the current stage of the investigation it is difficult to judge about the circumstances in which the presented here fitting arrived at Czermno. Undoubtedly it would then be valid to search for Avar artefacts in the area of present-day western Belarus and western Ukraine.

As already mentioned, the fitting from Czermno is dated for the second half of the 8th century. The vast majority of Avar artefacts found on the lands occupied by the Western Slavs is dated back to the 8th century.\textsuperscript{58} Does this mean there was an intensification of contacts between Khaganate and the Slavs in this period? Not necessarily. It should be recalled that the chronology of the Avar artefacts refers to the period of functioning of the particular items on the middle Danube and merely determines \textit{terminus post quem} of the occurrence of these products in the areas north of

\textsuperscript{53} Poleski 2009, see Fundliste A–C.

\textsuperscript{54} M. Wołoszyn believes that it should be considered whether Byzantine coins from 6th–8th century (issues minted after the reign of Justinian I [r. 527–565]) should be added to the list of the artefacts that reached Poland thanks to the Avars.

\textsuperscript{55} Kollautz 1982.

\textsuperscript{56} For Huns see Anke 2007; for Magyars see Schulze-Dörrlamm 2006. It is worth to add here, that one old Magyar find is also known from eastern Poland, see Bronicki-Michalik-Wołoszyn 2003; Schulze-Dörrlamm 2005.

\textsuperscript{57} Regarding the burial from Juszkowo (5th c.) from the whereabouts of Gdańsk by the Baltic Sea see Kontny-Mączynska 2015. On the issue of the Magyar finds from the Scandinavia see Heidensterna-Jonsson 2012.

\textsuperscript{58} Zoll-Adamikowa 1992; Eger-Biermann 2009; Poleski 2009; Profantová 2010; Žabojník 2010.
Khaganate. It cannot be excluded that it was not until the defeat of the Avars at the end of the 8th – the beginning of the 9th century that the wider reception of Avar products among Slavs took place.59

It must also be remembered that it is only the century of the griffin (das Jahrhundert der Greifen),60 i.e. the 8th century, that brings mass production of cast bronze elements of belts in the Carpathian Basin. Additionally, remains of Khaganate population from the 8th century on the middle Danube are more numerous than tangible evidence from the 6th and 7th centuries61. The dominance of the artefacts from the 8th century among the Avar products known from Poland or the Czech Republic is, therefore, simply a reflection of the situation in Khaganate itself.62

Is the list of the artefacts from Czermno referring to tribal age complete with just a few shards from 8th–10th century and presented here Late Avar fitting? To answer this question we need to once again return to the contemporary times.

**Hoard from Perespa and the beginnings of the Cherven Towns**

It should be explained that the middle Bug River witnessed two major military confrontations in the 20th century.

Between 30 August and 2 September 1920, in the vicinity of Komarów, Polish troops won a battle against the Soviet ones - this was one of the largest cavalry battles since 1813. The breakdown of the Soviet offensive of 1920 (the turning point of the war was the battle of Warsaw won by Polish side in mid August 1920) not only saved the independence of the Second Republic of Poland but also the lives of millions of Central and Eastern Europeans, who for another two decade did not have to share the fate of the inhabitants of Lenin’s and Stalin’s empire.

Then, in September 1939 Polish troops fought here twice with the Wehrmacht forces – unfortunately the Poles lost. The battles of Tomaszów Lubelski (17–20 September; 22–27 September 1939) are among the greatest battles of the September campaign, which was the first campaign of the World War II.

The importance of the events of 1920 and 1939, led to a great interest in these events among the local community. Especially that the defeat of the Polish Army in September 1939 resulted in hiding large amount of weaponry, or military equipment in general, in the area.

It is for this reason that the region of the Cherven Towns have for the last few years been the subject of a systematic searches carried out by amateurs equipped with metal detectors.63

The cooperation with some people from this community has brought to the scientific world many interesting artefacts, including some from the Bronze Age. The information about the discovery of two hoards (ornaments from the Early Medieval Period) in the immediate vicinity of the stronghold in Czermno was acquired also thanks to them (2014: Perespa, site No. 81 and 2015: Perespa, site No. 85). Archaeological research in Perespa enabled the discovery of the remaining parts of the hoards that had not been explored by the metal detector users (site No. 81 – research by Sylwester Sadowski [Lublin], September 2014; site No. 85 – research by Jolanta Bağıńska [Tomaszów Lubelski], November 2015). Currently, works are carried out on conservation and documentation of ornaments discovered there.64

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60 Pohl 1988, 282.
61 For the second half of the 6th century in Carpathian Basin: Bálint 1993; Vida 2008; see also currently Koncz 2015.
62 Similar is the situation with Avar finds in the south, on the territory of the central Balkans, see Bugarski et al. 2013, 298–300.
63 Of course, some of the people exploring Czermno with metal detectors are no more than ordinary looters.
64 These works are financed by The Centre for the History and Culture of East Central Europe (GWZO) at the University of Leipzig in the framework of the project The Elbe Marche... (see n. 40 above).
Full description of both the sets of ornaments is due in a few years. Hoard from Perespa, site No. 81 consisted of a fully preserved lunula pendant, a fragmentarily preserved lunula pendant, three intact beads, two partly preserved earrings, and several dozen fragments of other silver ornaments (weight: 54.13 g).

The hoard from Perespa, site No. 85 consisted of a vessel and 52 silver ornaments, five bronze items, beads (9 pieces made of carnelian, 30 specimens made of glass), and more fragments of silver ornaments.

The elements that are common for both of these hoards are e.g. beautiful lunulae – crescent-shaped pendants. A fully preserved lunula pendant as well as a seriously damaged one, both come from hoard in Perespa, site No 81. Due to the fragility of the artefacts the restoration works were limited only to the necessary ones. Works on the conservation and reconstruction of the artefacts from Perespa hoard were accompanied by the analyses of their metal composition and the technique of their execution.

Lunula pendant No. 1 after conservation is shown in Fig. 7. The artefact is made of a silver plate that additionally was strengthen on the back side with two stripes. The edge of the pendant was originally decorated with border filigree consisting of three bands: the middle one was made of two twisted wires creating a braided band and on the both sides single plain filigree wires (currently this ornament is only fragmentarily preserved).

The surface of the pendant was decorated in three ways. At the base of the crescent’s corners and in the central part (under the suspension loop) all together five big bosses were placed, each of them being divided into three smaller ones (additionally these smaller bosses are separated with lines made of granules). The centrally located bosses form a pointing-down triangle. The circumferences of each of these five big bosses are outlined with single line of granulation. Central part is decorated with inserted chevrons, arranged in two groups of four and with each chevron made of two rows of granules. Additionally, on the margin of the lunula pendant smaller bosses were placed, with their bases being outlined with granules as well.

The cylindrical suspension loop is also decorated. Here too granulation was used: a row of six adjoining lozenges decorates the central part, while the outer, raised rims of the suspension loop are additionally marked by parallel to them lines of granules.

The lunula pendants from Perespa represent Gnëzdovo type, and more precisely sub-type Gnëzdovo 1 according to the classification by Helena Zoll-Adamikowa. These are pendants usually made of sheet metal, usually silver, ornamented with granulation and filigree. Lunula from Perespa corresponds to the group of medium-sized specimens, even though it slightly exceeds the size of specimens from this group (40–58 mm). The crescent’s corners are poorly distinguished, lower edge is straight, and the suspension loop is single. Lunula pendants of this type are known mostly from Rus but also from Poland. One can mention here, above all, the lunula from Gnëzdovo (hoard

65 The dimensions of the artefact: width: 59.5 mm; height: 32.8 mm
66 On each of the outer sides of the composition of inserted chevrons there are two more bands of granules, including one, in which granules are arranged in lozenges. On the inner side of the composition of inserted chevrons there are additional two triangles also made with granulation.
68 H. Zoll-Adamikowa emphasised, after W. Duczko, that: “These ornaments, to be sure, are rather uniform in terms of production technology, but they are highly diversified in terms of details of form and decoration. They were identified by W. Duczko (Duczko 1972, 62) as one type, Gnëzdovo. However, of the nearly 100 specimens preserved in their entirety (or with enough remaining to enable reconstruction) from Russia, Ukraine, Poland, Germany, the Czech Republic, Hungary, and Romania, as well as the Scandinavian and Baltic countries, I was unable to find any two lunulae that were identical in every respect. Thus it is hard to agree with Duczko (Duczko 1972, 60), that they exhibit “such a stylistic and technological uniformity that they give the impression that they were manufactured in the same workshop”, see ZOLL-ADAMIUKA–DEKÓWNA–NOSEK 1999, 97, n. 5. For lunula pendants from Eastern Europe see KHAMAYKO 2012.
found in 1867),\textsuperscript{69} Gnězdovo (hoard found in 1993),\textsuperscript{70} as well as the specimens from Jurkovcy,\textsuperscript{71} but also from Sejkowice\textsuperscript{72} and Ciechanów\textsuperscript{73} in Mazovia (Poland).

Lunula pendants from Perespa should, therefore, be broadly dated to the second half of the 10th to the beginning of the 11th century. Maybe it will be possible to narrow down this chronology to the third quarter of the 10th century. Quite likely the hoard from Perespa (the one fund in 2014) should be dated to the same period.\textsuperscript{74} However, the preliminary character of this determination should be stressed.

Fragments of large lunula pandant No. 2 (plates and suspension loop) are also decorated with similar ornaments as lunula No. 1. On the piece of the obverse of lunula No. 2, shown in Fig. 8 both granules as well as bosses single and in composition of three can be noticed. In this case, however, they are significantly damaged and numerous cracks are visible on the deformed plate of the lunula pendant. On the reverse side of lunula No. 2 stiffening reinforcements are also observed in the form of three straps (Fig. 8). Also in this case the suspension loop of lunula No. 2 is decorated with granules (Fig. 8).

\textsuperscript{69} Zoll-Adamikowa–Dekówna–Nosek 1999, Fig. 85.c–d; Рябцева 2005, Fig. 36.

\textsuperscript{70} Рябцева 2005, Fig. 39.2.

\textsuperscript{71} Корзухина 1954, Cat. No. 15, Pls VI.1, VII.14–15; Zoll-Adamikowa–Dekówna–Nosek 1999, Fig. 85a–b.

\textsuperscript{72} Małachowska 1998, Fig. 10e (hoard buried after 1012, or even later, see Bogucki, Ilisch, Suchodolski 2015, 299).

\textsuperscript{73} Nowakiewicz 2003, Pl. 1.2a–b (hoard buried after c. 975; see Bogucki–Ilisch–Suchodolski 2015, 78).

\textsuperscript{74} It belongs to the second chronological group of hoards from the territory of Ruthenia, according to the scheme developed by Galia F. Korzuchina, see Корзухина 1954, 22–23; for the chronology of this group of the hoards, see currently: Liwoch 2013, 7–8;
Chemical composition of the plates, granules of the decoration and straps of lunula pendant No. 2 was determined by fluorescence ray spectroscopy method, using SPECTRO MIDEX spectrometer. This method does not destroy the analyzed object and allows to perform the analysis of chemical composition quickly and in the macroscopically selected place on the artefact. The results of the analysis (mass fraction) of the obverse, reverse and the suspension loop of lunula No. 2 is presented in the Table 1 (see also Fig. 8 for the location of the analysed areas [points a–h]).

The basic element of the alloy from which the sheet of lunula No. 2 was made is silver. The main admixes to silver are: copper, gold and lead. Silver contents in lunula plate is 93.93–94.91% Ag; 3.82–4.93% Cu; 0.6–0.81% Au; 0.34–0.46% Pb.

Granules are made of similar silver alloy. Silver contents in granules equals to 93.38–94.01% Ag; 4.84–5.48% Cu; 0.61–0.62% Au; 0.48–0.52% Pb. The observed greater copper contents in the granules than in the plate of the lunula is probably due to the use of copper compounds for soldering ornamentation.
Fig. 9. Perespa, district Tomaszów Lubelski, Lubelskie voivodeship, Poland, site No. 81. Lunula pendant No. 2 from the hoard found 2014. Some morphology observations made using scanning microscope (TESCAN VEGA 3). Damages of the bosses, breaches and deformations (computer editing: J. Stępiński, I. Florkiewicz); a. the appearance of the bosses and decoration made with granulation; b. folds of the plate observed on the edges of the boss that formed during its shaping; c. tip of the suspension loop of the lunula and the geometric decoration with granulation; d. granules of metal forming double triangles on the suspension loop of the lunula.
The same silver alloy was used to make the strips strengthening the reverse of the lunula No. 2 (Table 1, points c–h).

Examination under scanning and stereoscopic microscopes provided very interesting information about the manner in which lunulae were created. The observations under scanning microscope of a fragment of lunula No. 2 allowed to notice the typical damage of the bosses (tears and deformations), as well as revealed the way they had been made (Fig. 9a–b). Folds of the plate visible on the edges of the boss on Fig. 9.b prove that the boss had been formed without heating the sheet metal using a matrix and a stamp. The shape of the bowl of the boss was depicted in the matrix, and the stamp was used for bending the prepared sheet metal in a suitable manner. This operation posed some difficulty for the creator as can be observed by better or worse shape of the bosses (i.e. they have more or less bends of the sheet).

In this respect, the ornamentations made of granules appear to be extremely precise (Fig. 9a). Exemplary ornamentations made of granules from the suspension loop of lunula No. 2 as observed under scanning microscope is depicted in Fig. 9c–d. All the granules are of similar dimensions and shape here (Fig. 9d), suggesting a manufacturing technique utilising iron sieves.

Table 1. Czermno, district Tomaszów Lubelski, Lubelskie voivodeship, Poland, site No. 1. Chemical composition of the belt fitting in mass fraction determined by Energy Dispersive X-ray Fluorescence method (EDXRF), using SPECTRO MIDEX spectrometer (for the location of the analysed spots see Fig. 4) (preparation: E. M. Nosek, J. Stepniński)

<table>
<thead>
<tr>
<th>Location of the analysed spot</th>
<th>Cu [%]</th>
<th>Sn [%]</th>
<th>Pb [%]</th>
<th>As [%]</th>
<th>Sb [%]</th>
<th>Ag [%]</th>
<th>Fe [%]</th>
<th>Zn [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>a (belt fitting)</td>
<td>81.22</td>
<td>16.45</td>
<td>0.60</td>
<td>0.47</td>
<td>0.42</td>
<td>0.19</td>
<td>0.07</td>
<td>0.05</td>
</tr>
<tr>
<td>b (rivet)</td>
<td>96.26</td>
<td>1.07</td>
<td>0.18</td>
<td>0.07</td>
<td>0.02</td>
<td>0.12</td>
<td>0.03</td>
<td>0.02</td>
</tr>
</tbody>
</table>

Table 2. Perespa, district Tomaszów Lubelski, Lubelskie voivodeship, Poland, site No. 81. Chemical composition of lunula No. 2 of the hoard found in 2014 in mass fraction determined by Energy Dispersive X-ray Fluorescence method (EDXRF), using SPECTRO MIDEX spectrometer (plates, granules, and strengthening strips were analysed; for location of the analysed spots see. Fig. 8) (preparation: E. M. Nosek, J. Stepniński)

<table>
<thead>
<tr>
<th>Location of the analysed spot</th>
<th>Ag [%]</th>
<th>Cu [%]</th>
<th>Au [%]</th>
<th>Pb [%]</th>
<th>Zn [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>93.38</td>
<td>5.48</td>
<td>0.62</td>
<td>0.48</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td>b</td>
<td>94.91</td>
<td>3.82</td>
<td>0.77</td>
<td>0.46</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td>c</td>
<td>94.45</td>
<td>4.34</td>
<td>0.81</td>
<td>0.39</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td>d</td>
<td>94.82</td>
<td>4.07</td>
<td>0.73</td>
<td>0.34</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td>e</td>
<td>94.31</td>
<td>4.43</td>
<td>0.69</td>
<td>0.47</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td>f</td>
<td>94.01</td>
<td>4.84</td>
<td>0.61</td>
<td>0.52</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td>g</td>
<td>93.93</td>
<td>4.99</td>
<td>0.60</td>
<td>0.46</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td>h</td>
<td>94.06</td>
<td>4.77</td>
<td>0.57</td>
<td>0.58</td>
<td>&lt; 0.01</td>
</tr>
</tbody>
</table>

The same silver alloy was used to make the strips strengthening the reverse of the lunula No. 2 (Table 1, points c–h).

Examination under scanning and stereoscopic microscopes provided very interesting information about the manner in which lunulae were created.

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However, examination of lunula No. 2 by means of a stereoscopic microscope deserve particular attention. They yielded in the observation of clearly drawn lines near the decoration made of the granules (Fig. 10a) on the plate of one of the samples of lunula No. 2 obverse. It can be assumed that these lines marked the shape of the future ornament, which was then performed in the following manner. Powdered charcoal mixed with gum arabic (or similar binder) and powdered copper compounds was spread over the marked lines of metal plate. Granules were put on top of the powdered mixture, and then the plate with this decoration was heated at approx. 650° C. High
temperature melted the mixture and combined the individual granules with each other and with the plate of the lunula. An example of such a meltdown is shown in Fig. 10b where granules joint by small bridges form a decoration on the suspension loop of lunula No. 2.

This method of fitting the decoration of granules, filigree and ornamental bosses endured for many centuries and was also found on lunula and other ornaments from Zawada Lanckorońska.\textsuperscript{75}

The moment of hiding both of the hoards from Perespa (2014 and 2015) can be dated to the second half of the 10\textsuperscript{th} century, or possibly to the beginning of the 11\textsuperscript{th} century. However, the preliminary character of this determination should be stressed.\textsuperscript{76}

Both treasures were discovered in the forests in the present day Perespa village - in the immediate hinterland of the settlement complex in Czermno.

CLOSING REMARKS

The so-far-completed archaeological studies demonstrate that a clear increase of human activity in the area of Czermno took place in the late 10\textsuperscript{th} century. The rampart at site No. 1 was erected then, also timber structures (causeways) facilitating the communication on the muddy terrain around

\textsuperscript{75} Of course during the further studies on the artefacts from the hoards obtained from Perespa, site No. 81 and 85 cooperation with scholars from Eastern Europe will be of vital importance; on the topic regarding the results of the analyses of the silver coins and ornaments from Gnëzdovo see recently published Enjosova 2012.

\textsuperscript{76} As it is known in the literature on the subject there is a stimulating discussion on the reason for silver thesauration among the Slavs (cf. e.g. Suchodolski 2013; Adamczyk 2014). In the following paper, however, this question was not addressed at all. In the case of the hoard from Zawada Lanckorońska it could not be ruled out that deposited there ornaments used to belong to an itinerant merchant, or possibly a craftsman (cf. Zoll-Adamikowa-Derekówna-Nosek 1999, 115). Similar interpretation should be considered when addressing the hoards from Perespa, especially the one from site No. 81.
the stronghold were built at that time. The already mentioned hoards that were discovered in 2014 and 2015 are the evidence for social elite functioning in this region and being capable of gathering significant quantities of high quality jewellery. The *Russian Primary Chronicle* reports on battles over the areas of the middle Bug River in the late 10th century (981). It seems, therefore, that the above mentioned archaeological observations (erection of the rampart, construction of the causeways, accumulation of jewellery) are connected with the entrance of the area of Cherven Towns into the world of great politics. The Piasts and the Ruriks tried to make use of the lands on the middle Bug River and to conciliate local tribal elites, which began to participate in the circulation of silver. At the present stage of research it is impossible to determine whether the erection of the rampart towards the end of the 10th century was more due to the influences of the Piasts or of their eastern rivals.

Systematic investigation of Cherven Town region has begun only recently. The number and diversity of artefacts from this region leads to conclusion that it will probably not be very soon before we reach a state of the research similar to this known from Greater Poland or Silesia. However, we hope that the results of our current and future work will be of the interest of our respectable Jubilarian. The research on Chevren Towns is important not only in the context of studies on the relations between Poland and Ruthenia, but also considering wider perspective of the relations between Latin and Orthodox Europe in the Middle Ages.

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