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# Harbours of early medieval Wolin in the light of recent research

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*Wolińskie Spotkania Mediewistyczne II*

**ECONOMIES, MONETISATION AND  
SOCIETY IN THE WEST SLAVIC LANDS  
800–1200 AD**

*edited by Mateusz Bogucki and Marian Rębkowski*

Szczecin 2013

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## Harbours of early medieval Wolin in the light of recent research

*Andrzej Janowski*

Researchers agree that the founding and development of medieval Wolin resulted from its favourable location at the intersection of the important trading routes, not only overland, but especially maritime which connected the Slavic lands with Scandinavia and Kievan Rus' (Filipowiak 2004, 47). **Environmental conditions** gave shelter to ships during adverse weather conditions and provided a good place to moor and winter. The growing town attracted people, including merchants, from different parts of the world (Labuda 1999, 215). As early as in the initial phases of the town growth, steady development of craft made of regional natural resources (e.g. amber, antler) can be noticed. All these caused Wolin to quickly become one of the most significant crafting and trading centres in the Baltic Sea basin. Gentle coasts created natural harbours, but because they were boggy<sup>1</sup> their full usage could not have been possible, at least with regard to infrastructure. Properly prepared wharves were necessary for efficient service and monitoring of ship traffic.

In case of Wolin, a scientific interest in sailing issues which involved harbours and wharves, dates back at least to the end of the 19<sup>th</sup> century when A. Stubenrauch (1898, 88–89) attempted to locate a harbour here based on discovering a shipwreck in the Gardens quarter (Ogrody). In the 1940s this subject was also investigated by K.A. Wilde (1944, 176–177) who analysed the problem of the location of the legendary Jomsborg and argued that the harbour was possibly located in the Gardens quarter (Ogrody) or near Silberberg (the Silver Hill, Srebrne Wzgórze). However, the most important information on Wolin wharves has been gathered as a result of the post-war archaeological excavations that have revealed relicts of these structures in several places (Fig. 1).

In 1952 in the town centre (site 1), remains of the 11<sup>th</sup>–12<sup>th</sup> century harbour were discovered during the construction a new crossing over the Dziwna river. However, the research carried out within caissons was narrow in scope (Filipowiak 1956; 1993, 261–263). **Another wharf relicts were found in 1984–1985, in trench no. 8** situated about 200 m to the southwest of the discoveries from the middle of the century and about 60 m from the contemporary coastline. Structures made of cut tree trunks, interpreted as a wharf, were revealed in layers XVII and XVI (Fig. 2). The results of dendrochronological analyses showed that it had been functioning

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<sup>1</sup> The swampy area of Wolin and its immediate surroundings was mentioned, among others, by the writers of the Lives of Saint Otto of Bamberg (Kiersnowski 1950, 45–46).

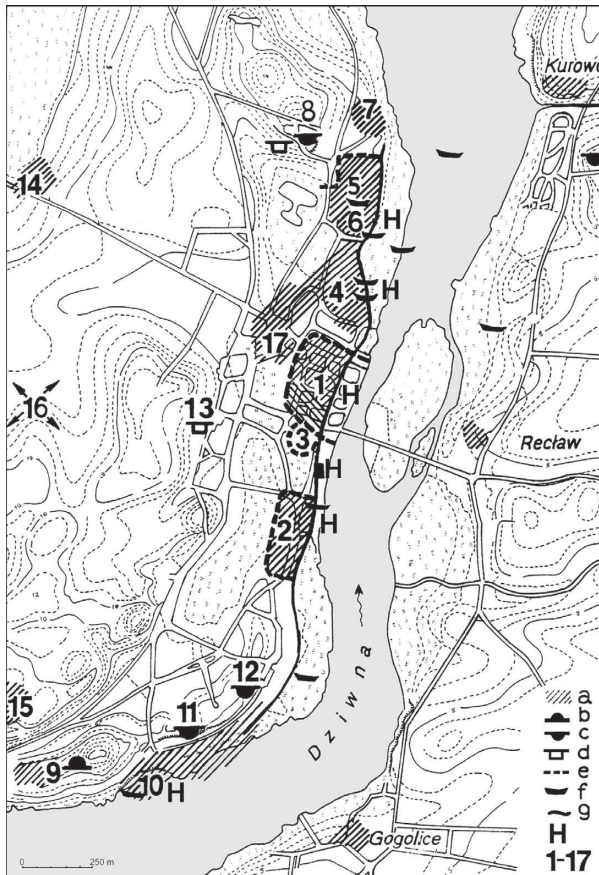


Fig. 1. Location of harbours within the spatial development of town Wolin in 9<sup>th</sup>–12<sup>th</sup> centuries. After Filipowiak, Konopka 2008, fig. 3, adj. by A. Janowski  
 a – densely built settlement; b – burial mounds;  
 c – cremation graves;  
 d – inhumation graves; e – defences of the town and suburbs; f – wrecks;  
 g – old bank of the Dziwna river;  
 H – harbour; 1-17 – site numbers

from the end of the 9<sup>th</sup> century (after 878, after 888 and around 895) to the middle of the 10<sup>th</sup> century. Taking into consideration these finds as well as the previous ones, a hypothesis was formulated that there was a big harbour in Wolin during the discussed period. The length of the quay together with the jetty used for mooring ships was estimated at 250–300 m what made simultaneous service of a dozen or even several dozen ships possible (Ważny, Eckstein 1987, 151–153; Filipowiak 1993, 263–265; 1999a, 63–64; 1999b, 94; Stanisławski 2012, 33–34).

The next excavations which were carried out in 1986 to the east of so-called Silver Hill (Silverberg, Srebrne Wzgórze, site 5-6) helped to establish that the oldest wharves had been constructed about 50 years earlier. Trench no. 4 revealed traces of the harbour built in palisade construction (layer 3) which was used already in the first half of the 9<sup>th</sup> century (dendrodates 838, 889 (+15/-10)) (Ważny, Eckstein 1987, 155; Filipowiak 1993, 266–267; 1999b, 94; Stanisławski 2012, 41–42) (Fig. 3).

In 1996–1998 further research was conducted at the South Settlement (Osada Południowa, site 10), located on the south slope of the so-called Hangman Hill (Wzgórze Wisielców) at the Dziwna river. In trench no. 3 there were traces of 4 phases of the wharf built around the middle of the 10<sup>th</sup> century (4 dendrodates 959–960 from the second and the third phase of the structure) in wattle-and-daub construction with recycled elements of ship plating (Fig. 4). What is interesting, this place could have functioned as a harbour also in later times as there is a written reference situating “portus Ruf” here in 1305 (see Stanisławski 1998,

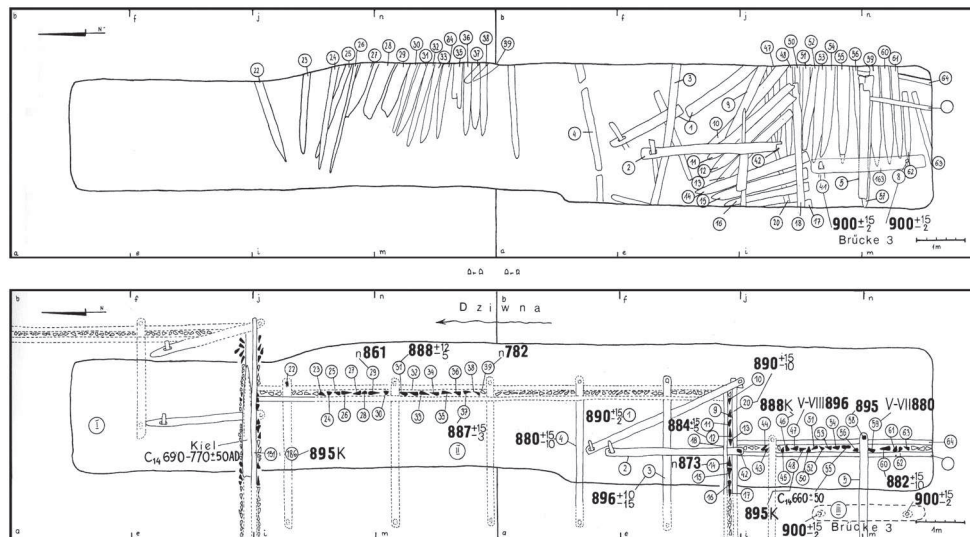


Fig. 2. Wolin, site. 1, trench no. 8. Quays in palisade construction from the fourth quarter of the 9<sup>th</sup>–first half of the 10<sup>th</sup> century. After Filipowiak 1993, fig. 2

248–250; 2012, 43–44; Filipowiak 1999a, 65; 1999b, 94; Ważny 2001, 160–161; Indruszewski 2004).

In the 1990s owing to numerous discoveries it was possible to recapitulate and update the knowledge on the harbour and wharves of Wolin (i.a. Filipowiak 1993; 1999a; 1999b). However, the discoveries which were made soon afterwards have greatly extended this knowledge. Firstly, the results of the research carried out in 1999–2002 in the Gardens quarter (Ogrody, site 4) owing to the building of a new bridge should be mentioned. In trench no. 2 (pillar 19) situated at a distance of 60 m from the present-day channel of the Dziwna river relicts of the harbour built in post-and-beam construction, which incorporated plating of the dismantled ships, were revealed (Fig. 5 and 6). Artefacts from the explored layers as well as

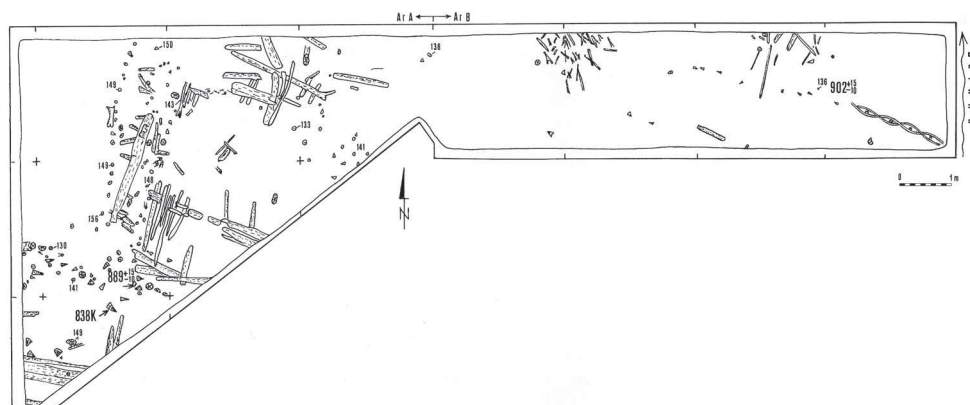


Fig. 3. Wolin, site. 5-6, trench no. 4. Quays in palisade construction from the first half of the 9<sup>th</sup> century. After Filipowiak 1993, fig. 5



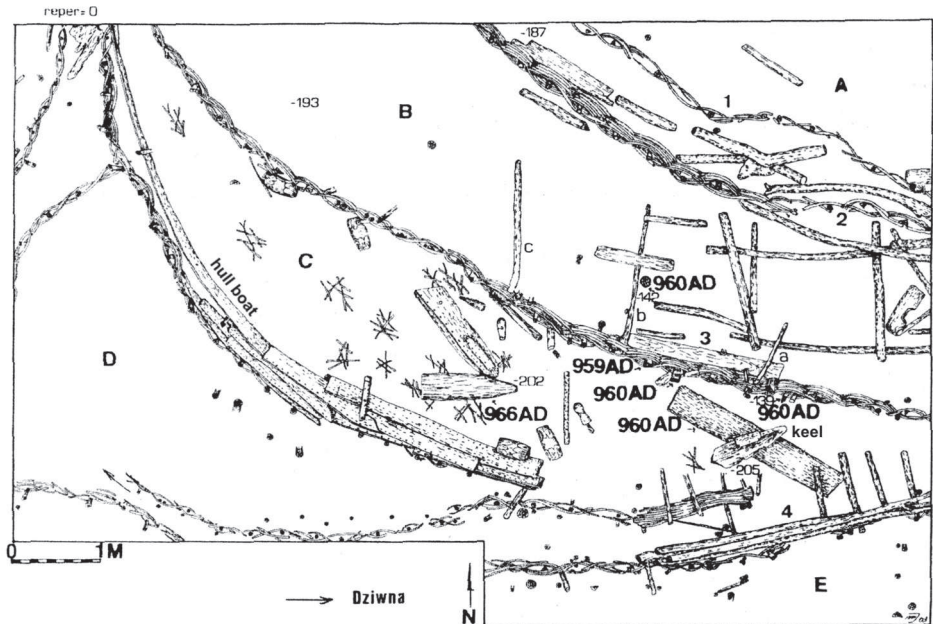
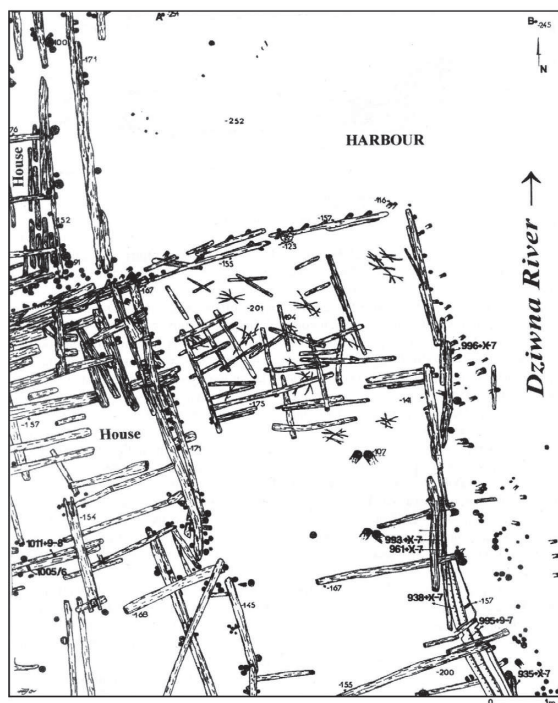


Fig. 4. Wolin, site 10, trench no. 3. Quays in wattle-and-daub construction from the second half of the 10<sup>th</sup> century. After Stanisławski 2012, fig. 17



the results of the dendrochronological analyses show that it was built at the turn of the 10<sup>th</sup> and 11<sup>th</sup> centuries and that it was functioning until the 12<sup>th</sup> century, although the period of its greatest prosperity was probably in the first half of the 11<sup>th</sup> century (sequence of dendrodates from 935(+x/-7) to 1011(+9/-8), including those obtained from the ship planting from 938(+x/-7) to 995(+9/-7)) (Stanisławski 2000, 163–165; 2012, 38–39; Filipowiak 2003, 144–146; 2005, 65–66). **Parallel**

Fig. 5. Wolin, site 4, trench no. 2. Quays in post-and-beam construction from the end of the 10<sup>th</sup> – first half of the 11<sup>th</sup> century. After Filipowiak 2004, fig. 16

to the research conducted in the Ogrody quarter in 2001, in the South Suburb (Południowe Przedmieście, site 2) – the so-called fishing quarter – rescue excavations were carried out during which a shipwreck was found, whereas in the adjoining trench from the north a fragment of a palisade wall dated by dendrochronology to the first half of the 10<sup>th</sup> century (sequence of 8 dendrodates from 914(+x/-2) to 945/946) was recorded and interpreted as the relict of a wharf (Stanisławski 2012, 36) (Fig. 7).

In 2011 new opportunities for obtaining information on Wolin harbour and its wharves were created by an investment conducted by Wolin Commune in the area between the Old Town (site 1) and the South Suburb (Południowe Przedmieście, site 2). This area has been inventoried as site 3. The archaeological research carried out in the 1950s at a distance of about 100 m to the northwest from the discussed area, revealed the existence of a settlement dating to the 10<sup>th</sup>–12<sup>th</sup> century in this place, and it was believed that a small peninsula surrounded by bogs and connected with the town from the north was situated here in the past (see Filipowiak 1962, 308–309). During later excavations conducted in the last half of the century, cultural layers containing early medieval artefacts were recorded but

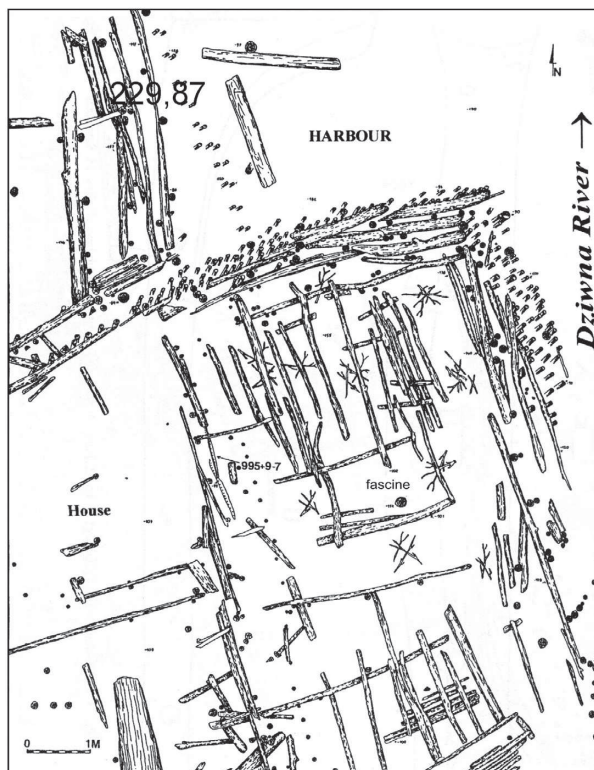


Fig. 6. Wolin, site 4, trench no. 2. Quays in post-and-beam construction from the second half of the 11<sup>th</sup> century. After Filipowiak 2003, fig. 4

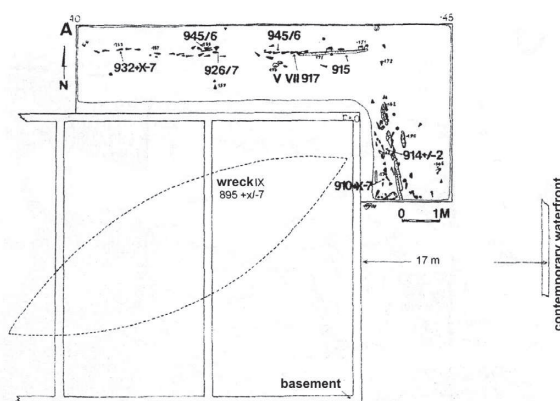


Fig. 7. Wolin, site 2, trench no. 5. Quays in palisade construction from the first half of the 10<sup>th</sup> century. After Stanisławski 2012, fig. 9





Fig. 8. Wolin, site 3. Aerial photo of the site during excavations in 2012 – view from the east.  
Photo AeroKam



Fig. 9. Wolin, site 3. Aerial photo of the site during excavations in 2012 – view from the west.  
Photo AeroKam





Fig. 10. Wolin, site 3. In the foreground post-and-beam construction of the northern quay.  
Photo A. Janowski



Fig. 11. Wolin, site 3. Central quay in palisade construction – view from the northwest.  
Photo A. Janowski





Fig. 12. Wolin, site 3. Central quay in palisade construction – view from the east.  
Photo A. Janowski



Fig. 13. Wolin, site 3. Partition wall of the building in palisade construction. Photo A. Janowski



Fig. 14. Wolin, site 3. Post-and-beam construction of the southern quay. Photo A. Janowski

owing to a small degree of exposition their nature has remained unknown (Janowski 2012).

The area of the investment measured 15 ares (length about 50 m and width from 27 m in the north part to 32 m in the south part) and it was located in the immediate vicinity of the Dziwna river with its longer side parallel to the river (Fig. 8). During rescue excavations relicts of the harbour wharves from diverse periods were revealed. Most significant for present research were the discoveries of structures which can be dated to the early Middle Ages. The top part of these structures was at the level of about 0,4–0,5 m below sea level. Based on an observation of the differences in structure and consistency of the layers, it should be assumed that there are fragments of three piers situated perpendicularly to the river channel within the boundaries of the investment (Fig. 8–9). Each of them was built of earth embankment strengthened by wooden construction **from the outside**. **The first pier** situated in the north part of the trench was built in post-and-beam construction and its recorded measurements are 14 x 7 m (Fig. 10). The second one, situated more or less in the centre of the trench, was built in palisade construction and its recorded length measured about 20 m in length and was about 15 m wide (Fig. 11–12). The shape of the recorded part resembled an elongated trapezoid. An embankment of the pier was placed on a layer of stones which stabilized the whole construction, and a wall of the wharf was constructed of a two-row palisade. A palisade-construction building(?) was built on this pier having a maximum width of about 13 m and recorded length of 15 m. Elements of the interior division were also built in palisade construction. Posts were set directly in the earth, only in the central (?)





Fig. 15. Wolin, site 3. Remains of a boat in the palisade construction of the central quay.  
Photo A. Janowski

part of the building they were planted in a special frame (Fig. 13). A small jetty (?) was adjacent to the pier from the south on which dismantled sides of ships and at least 8-metre-keel were discovered. Parts of a ship were also used to strengthen the pier itself (Fig. 14). In the south part of the trench there was another pier, however, a bad state of preservation of this structure makes further speculations difficult. Based on the preserved fragments it can be assumed that it was built in post-and-beam construction (Fig. 15).

The construction of the middle pier was made almost entirely of oak wood, whereas the north and south pier were built of poor quality wood; even macroscopic evaluation during the excavation helped to distinguish birch and alder among the types of trees that had been used. This caused difficulties in selecting wood for dendrochronological analyses. In the first series of analysed samples (33 samples) for the north pier no date was obtained, for the middle pier: 19 dendrodates in a sequence from 884 (-7/+9) to after 986 (-7/+9), and for the south pier: two dendrodates – after 922 and after 932. Furthermore, one date – after 938, was obtained from the side of the ship lying between the south pier and the middle pier (cf. Krąpiec 2012).

The distribution of dates obtained for the wood from the structure of the middle pier indicates that its construction had started probably at the end of the 910s or the beginning of the 920s (as many as 9 dates indicate years 908–913) using older wood in some parts (dates: 887, after 893, after 894, 902 (-4/+9), 903, 904). The structure was repaired soon afterwards as indicated by the date 918 (-7/+9). We do not know for how long the pier was used in such a condition since the results of

the previous excavations conducted in Wolin show that in the first half of the 10<sup>th</sup> century there was a sudden water level rise (about 0,5 m) which caused undercutting of the low-lying areas and the necessity of moving the settlement to the higher areas (cf. Filipowiak 1993, 264–265; 2005, 66, 68; Latałowa et al. 1995; Latałowa 1999, 226–227). **The pier was probably in use about the middle or in the second half of the 10<sup>th</sup> century** again, and then an attempt to repair and extend the construction was undertaken. Vertical elements in the north wall of the pier were replaced (date 944 (-7/+9) and about 1,5-metre-wide jetty was added (date after 986) from the south. However, the jetty was made mainly of pine wood. Another evidence for the functioning of the wharf in this period is the side of the ship that lies between the north pier and the middle pier for which the date of cutting the tree was established to after 938. It should be expected that results of the analyses of the remaining samples will allow to specify with more precision the history of this place, although the present samples also allowed to systematise the history of this part of the Wolin harbour. They confirmed building in palisade construction in Wolin at the close of the 9<sup>th</sup> century to the 930–940s. Slightly younger chronology of the wood used for building the south pier in post-and-beam construction also confirms regularities previously observed in Wolin. This construction is one of the characteristic features of the Wolin infrastructure in the whole period of its existence, though its usage did not become more widespread until the second quarter of the 10<sup>th</sup> century when, as a result of the previous building campaign that had taken place in the 9<sup>th</sup> century and at the beginning of the 10<sup>th</sup> century, there was a shortage of good quality building material in the vicinity (cf. Stanisławski 2011, 228). **The development of the town** and the growing demand for wood caused degradation of the surrounding forests. Later, in case of some constructions (e.g. the jetty next to the middle pier) and techniques that did not require wood of good quality (e.g. post-and-beam) local resources were sufficient. However, in case of constructions of special importance the building material had to be imported. This is proved by the fact that wood used to construct a building of so-called “temple” in 966 originated from the areas located to the south of Szczecin (Ważny 2001, 158; Filipowiak, Konopka 2008, 256).

During the excavations of 2012 in the relicts of the structures and layers around the wharves about 35000 fragments of pottery vessels and about 30000 fragments of animal bones were found as well as numerous artefacts (over 2000 items) which show various aspects of the everyday life of people from Wolin and lively trade with other European regions on the Baltic coast. Artefacts of Scandinavian provenance include 21 fragments of soapstone vessels, 3 bronze belt fittings with Borre style ornamentation and silver pendants **as well as items of Rhineland provenance such as a shield brooch decorated with *Cloisonné* enamel**. Over 40 weights and fragments of scales which were found in Wolin, as well as 32 coins and hacksilver indicate exchange of goods in this place. The location of these objects in the immediate vicinity of the wharf wall from water may suggest that trade took place directly from the boats moored to the pier. Almost 500 pieces of the recorded objects made of bone, antler and amber could serve as exchanged goods. Also the soil moisture created excellent conditions for preserving the objects made of organic materials (wooden staves and bottoms of barrels, as well as spoons, willow bark basket, fragments of leather artefacts, belly of a string instrument). Among the osteological



materials, apart from animal remains, some human remains were also recorded; they are probably a proof of an invasion that could have suddenly ended the lives of the town's inhabitants.

Summarizing the excavation work carried out in 2012 it is necessary to mention that it has provided much valuable information on the development of early medieval Wolin. Owing to a large surface of the trench it was possible for the first time to record the wharf which was evidently situated perpendicularly to the line of water, not parallel or in other unspecified manner as it had been thought during the previous excavations (see above). Discovering the pier wharf is also a complete novelty since there was an assumption about the existence of jetties in the previous attempts at the reconstructing the appearance of the town (cf. Filipowiak, Konopka 2008, fig. 8). **Another place on the map of Wolin where wharf relicts have been recorded allows to propose a hypothesis that during the biggest prosperity of the town at the close of the 9<sup>th</sup> century and in the 10<sup>th</sup> century, practically along the whole coastline from Silberberg (Srebrne Wzgórze) in the north, to at least the South Suburb (Południowe Przedmieście) in the south, that is almost 1000-metre-area, one huge harbour could have existed. Surely its extensiveness could have been impressive and the fact that it has been noted by the chroniclers of that time should be no surprise<sup>2</sup>. Also the discovery of the relicts of palisade constructions from the first quarter of the 10<sup>th</sup> century in the same context as artefacts of Scandinavian provenance is of particular importance for the history of Wolin. To date, both groups of sources occurred separately in Wolin: palisade constructions in layers from the close of the 9<sup>th</sup> century to the 930s and 940s, whereas artefacts of Scandinavian provenance in the period from the third part of the 10<sup>th</sup> century to the beginning of the 11<sup>th</sup> century (cf. Stanisławski 2011, 236–237). Recent sources show that it is necessary to once again reevaluate the opinions on the origins of this building technique on the southern coast of the Baltic Sea, whereas all sources obtained during the excavations in 2012 require looking at the history of the town in the new light. It is certain that if it was not for its harbour, Wolin would not have been such an important place in the early Middle Ages. The key to unravelling its complicated history probably lies within the town's harbour, except now within the one newly built.**

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<sup>2</sup> In the written sources there are numerous references – yet of varying reliability – to the harbour(s) of Wolin. According to the *Ibrāhīm ibn Ya'qūb's record a huge town of the Weltaba people (the Veleti?)* situated by the Ocean, identified as Wolin, had 12 gates and “a harbour built of cut tree trunks” (Labuda 1999, 148). The identification of the harbour belonging to “the mightiest of the Slavic kings” and “the place where numerous ships meet”, “the most beautiful harbour in this area” which is mentioned by Abul Fiday (1321) based on older information by Ibn Saïd (1260–1280) as Wolin is less reliable (Kiersnowski 1950, 33). The Wolin harbour could be also hidden under “jetties” mentioned in the *Life of Saint Otto of Bamberg* (Filipowiak 1956, 196–197). An indirect presumption about the existence of the large harbour are mentions in Scandinavian sources from the second half of the 12<sup>th</sup> century with information on the wintering of Haakon Jarl's fleet around the year 980 and the frequent wintering Olaf Tryggvason's (who died in 1000) fleet (Kiersnowski 1950, 57; Morawiec 2009, 22–23). All this is all supplemented by a half-legendary record of a Viking stronghold *Jómsborg* in Wolin, which allegedly had an inner harbour with a stone gate with iron double doors, that could house three hundred ships (Rafn 1829, 68–69).

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