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#Head 1#New ¹⁴C Dating of the Silver Hill settlement in Wolin and the Question of the Origins and Urbanisation Model of the Early Medieval Town

Zusammenfassung: Das frühmittelalterliche Wolin war eine mehrteilige städtische Agglomeration. Eines ihrer wichtigsten Elemente war die Siedlung auf dem Silberberg. Um die Chronologie der Siedlung in diesem Gebiet zu klären, wurden 26 neue ¹⁴C-Datierungen aus Schichten vorgenommen, die mit dem Nordwall, den Geweihwerkstätten und den Häusern in Verbindung stehen. Die Ergebnisse wurden mit den verfügbaren dendrochronologischen und numismatischen Daten verglichen. Dadurch konnte die Datierung der frühmittelalterlichen Siedlung auf dem Silberberg, die möglicherweise in der ersten Hälfte des 9. Jahrhunderts begann und zu diesem Zeitpunkt bereits befestigt war, nach hinten verschoben werden. Der Vergleich dieser Ergebnisse mit den Daten aus dem Stadtteil Ogrody und dem Zentrum in der Altstadt ermöglichte die Formulierung von zwei Hypothesen über die Entstehung von Wolin als Ergebnis des Zusammenschlusses zweier Siedlungen mit möglicherweise unterschiedlichem ethnischen Charakter und des plötzlichen Urbanisierungsdurchbruchs in der Mitte des 9. Jahrhunderts, der sowohl die Altstadt als auch den Silberberg betraf.

Schlüsselwörter: Frühmittelalter, Urbanisierung, Chronologie, Wolin, Polen

Abstract: Early medieval Wolin was a multi-part urban agglomeration. One of its most important elements was the settlement within Silver Hill. In order to clarify the chronology of the settlement in its area, 26 new ¹⁴C dates were obtained from layers associated with the northern rampart, the antler workshops, and houses. The results were compared with available dendrochronological and numismatic dates. As a result, the dating of the early medieval settlement on Silver Hill, which may have begun in the first half of the 9th century and was already fortified at that time, was moved back. Comparison of these results with the dates from the Ogrody district and the centre in the Old Town allowed the formulation of two hypotheses about the formation of Wolin as a result of the merger of two settlements of perhaps different ethnic characters, and the sudden urbanisation breakthrough in the middle of the 9th century involving both the Old Town and Silver Hill.

Keywords: early Middle Ages, urbanisation, chronology, Wolin, Poland

Abstrakt: Wczesnośredniowieczny Wolin był wieloczęściową aglomeracją miejską. Jednym z najważniejszych jej elementów było osadnictwo w obrębie Srebrnego Wzgórza. W celu uściślenia chronologii osadnictwa na jego obszarze wykonano 26 nowych datowań ¹⁴C z nawarstwień związanych z wałem północnym, warsztatami rogowniczymi oraz domami. Wyniki porównano z dostępnymi datami dendrochronologicznymi oraz numizmatycznymi. W rezultacie przesunięto wstecz datowanie osadnictwa wczesnośredniowiecznego na Srebrnym Wzgórzu, które mogło się rozpocząć w 1 poł. IX wieku i było już wówczas ufortyfikowane. Porównanie tych wyników z datami z dzielnicy Ogrody oraz centrum na Starym Mieście pozwoliło sformułować dwie hipotezy o powstaniu Wolina w wyniku połączenia dwóch osad o być może odmiennym charakterze etnicznym oraz o nagłym przełomie urbanizacyjnym w połowie IX wieku obejmującym zarówno Stare Miasto, jak i Srebrne Wzgórze.

Słowa kluczowe: wczesne średniowiecze, urbanizacja, chronologia, Wolin, Polska

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#Head 2#Introduction¹

Early medieval Wolin was one of the largest trade emporiums on the Baltic.² At the end of the 8th century, a settlement was established on a small hill near the Dziwna Strait, which grew into an early urban agglomeration around the middle of the 9th century. It reached the peak of its economic, political, and spatial development in the 10th century and lasted until the middle of the 11th century. In addition to the fortified town centre, southern and northern suburbs were established (Fig. 1). The latter consisted of a settlement on a small hill, called Silver Hill since the late Middle Ages, and a densely developed area in the depression of land between it and the town centre, called the Gardens.³

Due to its role in the establishment of the Wolin emporium, Silver Hill in Wolin has attracted the interest of researchers for nearly 200 years. The course of the rampart that had protected the hill from the north and west and disappeared in the south⁴ was recorded in the first half of the 19th century.

Nearly 100 years later, semi-amateur field research was conducted in the area in search of the legendary Viking fortress of Jomsberg.⁵ Additional professional excavations of the remains of the western rampart, were undertaken in the 1930s,⁶ but the main collection of sources for the history of this part of the town was uncovered in research from 1961 to 1986.

In the light of these sources, as the town's craft and trade district Silver Hill must have played a primary role in the town's economic system. Numerous workshops – of antler, amber, and non-ferrous metal working – were located there, and a market was also in operation.⁷ It was in connection with this market that a settlement was supposed to have been established there in the middle of the 9th century.

North of it was probably an iron smelting site with numerous furnaces.⁸ The suburb also had its own wharf on the Dziwna Strait,⁹ as well as massive fortifications on the north and west sides, built in the late 9th and early 10th centuries and rebuilt in 5 phases until the mid-11th century.¹⁰ At the same time, numerous silver treasures consisting of Arabic and Western European coins, jewelry, as well as individual coins, were discovered on Silver Hill.¹¹ An inn¹² and a convent of Cistercian nuns¹³ were also supposed to have operated here since the end of the 13th century. A different interpretation of the site – as a sacred zone where symbolic exchanges of goods and religious rituals were to take place, and the hill itself, excluded from residential settlement and later transformed into a stronghold – has also been proposed.¹⁴ The interpretation of the chronology of settlement on Silver Hill is therefore important for understanding the genesis and development of the town, as well as its structural and social transformations.

The materials obtained in the second half of the 20th century have only been processed tentatively,¹⁵

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² Filipowiak 2022a.

³ See Filipowiak/Konopka 2008; Stanisławski 2013b; Rębkowski 2019; 2020.

⁴ Steffen 1828.

⁵ See Holtz 1939; Stubenrauch 1898; Wilde 1944; Filipowiak 2005; Stanisławski 2013a; 2013b; Filipowiak *et al.* 2016; Biermann 2020; Morawiec 2023.

⁶ Wilde 1939, 1940.

⁷ Filipowiak/Konopka 2008, 253.

⁸ These are the results of recently finished rescue excavations in connection with the construction of an aggregate mine. For the information and permission to make them public, I thank Kamil Maciejewski, who led the excavations.

⁹ Filipowiak 1993, 266; Janowski 2013, 46.

¹⁰ Steffen 1828; Wilde 1940; Wojtasik 1999, 347; Cnotliwy 2014.

¹¹ Horoszko 2014; Bogucki/Malarczyk 2014; Bogucki *et al.* 2016, 577–601.

¹² PUB I, no. 30; Filipowiak/Filipowiak 2014, 379.

¹³ Kalita-Skwirzyńska 2010.

¹⁴ Stanisławski 2013b, 258, however, the author elsewhere (2013a, 33–35) leans toward a different interpretation, stating that Silver Hill served as a suburb and then a district.

¹⁵ Wojtasik 1999; Stanisławski 2013b, 35.

while researchers have focused on specific issues such as antler craft,¹⁶ artefacts made from a particular type of raw material,¹⁷ or human skulls, one of which was intentionally deformed.¹⁸ The dating of the site was based on two ¹⁴C dates and three dates obtained by the dendrochronological method,¹⁹ as well as a preliminary analysis of a small part of the pottery collection.²⁰ Thus, the data on the chronology of the site, as previously indicated,²¹ still stand on a tenuous basis.

#Head 2#Method

In order to clarify the chronology of settlement on Silver Hill, the ¹⁴C dating method was applied to the artefacts found within the structures (rampart, houses, and workshops) recorded during the 1961–1986 excavations. Three archaeological trenches were excavated in 1961–1969 (Fig. 2). Trench 1, 110 m long and 2.5–7.5 m wide, was investigated in 1961–1963, and included the northern rampart along with the moat. Trench 2, 105 m long and 1–15 m wide, was surveyed in 1964–1967. Nine shorter trenches, 10 m long and 1–2.5 m wide, were together designated as Trench 3. Carrying out many smaller cuts instead of one was chosen to study a longer section of the southern slope of Silver Hill.²² In 1979, an interventional survey was undertaken during the construction of high voltage poles.²³ Probably because of the observations made at that time, it was decided in 1986 to excavate a small 10 x 2.5m trench (Trench 4) near the overflow area of the Dziwna Strait, not far from one of the poles.²⁴ Samples for the study were selected from artefacts made of antler, since they have been found *en masse* in almost every feature discovered on Silver Hill. Twenty-six of them were taken from artefacts discovered in the layers of the northern rampart (Fig. 3) developed by Eugeniusz Cnotliwy,²⁵ features (Figs. 4, 5) designated as Houses 1–4, 6–7 published (except House 7) by Jerzy Wojtasik in his preliminary study of the site,²⁶ and features associated with antler Workshops 1 and 2 analysed by Cnotliwy.²⁷ The dating was done by Tomasz Goslar of the Poznan Radiocarbon Laboratory. The results were calibrated in the OxCal v4.4.2 program according to the IntCal 20 curve.²⁸ Two ¹⁴C dates obtained in the 1990s for materials from Silver Hill²⁹ were also calibrated. The results were compared with dates acquired by dendrochronology and numismatics. Three dates came from fragments of a wooden structure discovered in a 1986 excavation. In turn, precise coin dates were established for single finds from the 1961–1969 excavations³⁰ and for a silver treasure hoard plundered by detectorists and later partially recovered by employees of the Institute of Archaeology and Ethnology of the Polish Academy of Sciences.³¹ A simple Harris matrix was also created for the samples to be able to establish the relationships between them (Fig. 6). Modelling based on Bayesian statistics available in the OxCal v.4.4.2 program was also used to analyse the dates. This method was applied to the results obtained from the rampart layers, since in this case it was possible to determine the relationship between the stratigraphic units from which the samples came (Fig. 8, Tab. 3).

¹⁶ Cnotliwy 1970.

¹⁷ Misiura 1978; Wojtasik 1978; 1986.

¹⁸ Różnowski/Gładykowska-Rzeczycka 1979; Pokorski 2021.

¹⁹ Filipowiak, Wł. 1993, 266; Pazdur *et al.* 1994, 159.

²⁰ Cnotliwy *et al.* 1986, 70–72, 74–75; Stanisławski 2012, 96.

²¹ Stanisławski 2013a, 35.

²² Wojtasik 1999.

²³ Jusza 1979.

²⁴ Filipowiak, Wł. 1993.

²⁵ Cnotliwy 2014.

²⁶ Wojtasik 1999.

²⁷ Cnotliwy 1970.

²⁸ Reimer *et al.* 2020.

²⁹ Pazdur *et al.* 1994, 159, Table 3.

³⁰ Horoszko 2014.

³¹ Bogucki/Malarczyk 2014.

#Head 2#Results

The method described above made it possible to obtain new data on the dating of the individual features studied (Tab. 1). Gathering all the dates from this site and comparing them with the nearby Ogrody site – which most likely constituted a single settlement unit with Silver Hill in the early Middle Ages – made it possible to establish a more precise chronology of the settlement dynamics of the northern part of Wolin during this period. In turn, the comparison of these results with the dating of the formation of the entire town and its stages of development, fairly well illuminated by absolute dating, has allowed us to address hypotheses regarding the formation and development dynamics of the entire early medieval town.

As a result of the research, the dating of the various phases of construction of the northern rampart has changed. In a study of the defensive fortifications of early medieval Wolin, Cnotliwy divided the time of its existence into phases, from the oldest Rampart I to the youngest Rampart V, and associated stratigraphic units with these periods. Rampart I, whose functioning Cnotliwy further divided into subphases Ia and Ib, was said to have been created and used from the first half to the middle of the 10th century. Dating was based on pottery analysis.³² No corresponding samples were found from the layers associated with the Ia rampart construction; however, two samples were extracted from the settlement layers directly associated with and overlying the rampart layers. From the first sample, a bone awl from the older layer XVII, a ¹⁴C date of 771–893 (87.4%), 784–878 (68.3%) cal AD (Lab. No. Poz-162420) was obtained, indicating that this layer may date from the 8th to the end of the 9th century, but most likely from the 9th century. The second sample, of antler waste (also from layer XVII), was dated to 386–165 (95.4%), 354–283 (44%) cal BC (Lab. No. Poz-162455), so probably the 6th to 3rd century BC. This is a surprising result in an early medieval rampart, but more similar results were obtained in the course of dating. Modeling using Bayesian statistics made it possible to refine the dating of Phase Ia of the rampart. The results indicate that this rampart was built around the middle or second half of the 9th century (Tab. 3).

On the other hand, a ¹⁴C date of 892–1021 (95.4%), 953–995 (41.1%) cal AD (Lab. No. Poz-162418) was obtained from the younger Layer XII, associated with Rampart Ib, indicating that this layer dates to the second half of the 10th century. In this case, the chronology of the cut antler fragment was determined.

In dating the origins of the rampart at Silver Hill, a sample ¹⁴C dated in the 1990s should also be considered, as it was taken from a layer interpreted as having accumulated before the fortifications were built. It was considered to date from the 10th century, but was not used in the last attempt to determine the chronology of the fortifications.³³ After a new calibration, a dating of 773–1050 (88.2%), 887–1028 (68.3%) cal AD (lab. no. Gd-2500) was obtained. Thus, the sample may date from the late 9th to mid-11th century. However, its value for analysis is weakened by the fact that the sample consisted of animal bones scattered in the settlement layer, and not a single specimen. This may significantly expand the chronological range of the sample.

Modeling using Bayesian statistics made it possible to refine the dating of the Ib rampart phase. The results indicate that this rampart was built around the end of the 9th century and functioned until the first half of the 10th century (Tab. 3). Unfortunately, the sample taken from the layer accumulated before the fortifications were built had to be removed from the dating model using Bayesian statistics because it caused erroneous results. This may be due to the wrong way of collecting it.

Rampart II was thought to have been built in the second half of the 10th century. This was determined on the basis of ceramics and chronology of Rampart I and III.³⁴ In this case, a ¹⁴C date of 771–900 (82.7%), 821–891 (56.2%) cal AD (Lab. No. Poz-162417) was obtained from a bone needle fragment from layer XI, the oldest layer associated with Rampart II. This may indicate that this phase of fortification dates from the mid-9th to second half of the 9th century.

The phase 2 sample was also removed from the Bayesian modeling because it caused erroneous results.

³² Cnotliwy 2014, 259; 271.

³³ *Ibid.*

³⁴ *Ibid.* 262–263.

This could be due to both the still inappropriate division of the rampart's history into phases, as well as the stratigraphic troubles the researchers encountered at the time.

Rampart III was thought to date from the late 10th and early 11th centuries. In this case the basis for dating was pottery.³⁵ The rampart was formed by layers X and VII. From layer X, a ¹⁴C date of 820–987 (86.4%), 918–960 (28.6%) cal AD (Lab. No. Poz-162416) was obtained from a part of cut antler. On the other hand, from Layer VII comes the ¹⁴C date 870–992 (82%), 915–976 (52.2%) cal AD (Lab. No. Poz-162419) from an antler awl fragment. Both dates are quite consistent and, combined with dates from previous phases of fortification, allow us to date the chronology of rampart III to the first half of the 10th to the second half of the 10th century, which is also supported by the Bayesian modelling (Tab. 3)

Rampart IV (layers V and IV) was dated by Cnotliwy to the first half of the 11th century.³⁶ No new samples were taken from these layers; however, settlement layer III of the same chronology was supposed to be associated with rampart IV, in which antler Workshop 2 was identified.³⁷ Three objects from Workshop 2 located in layer III were analysed. Cnotliwy dated Phase IV of the rampart (layers V and IV) to the first half of the 11th century.

Workshop 2 was discovered in Trench I excavated in 1961–1963. Associated with it were pit 3 – the remains of a dwelling house – and hearths 1–3. So far, the workshop has been dated to the first half of the 11th century.³⁸ Two ¹⁴C dates were obtained from pit 3: 990–1050 (70%), 993–1040 (66.1%) cal AD (Lab. No. Poz-162384) and 976–1048 (84.8%), 994–1029 (68.3%) cal AD (Lab. No. Poz-162415). Two ¹⁴C dates were obtained: from hearth 1, 820–987 (86.4%), 918–960 (28.6%) cal AD (Lab. No. Poz-162380); and from hearth 2, 890–1020 (95.4%), 950–994 (41.6%) cal AD (Lab. No. Poz-162381). Dates from the workshop were collected of antler fragments and semi-finished antler cladding. Hearth 1 probably dates to the first half of the 10th century, and hearth 2 to the second half of the 10th century; however, there is a slight possibility that both may also date to the 9th century. Unfortunately, on the basis of published data, it is not possible to determine the precise stratigraphic relationship between the settlement layer III in which the workshop was found and layers V and IV associated with Rampart IV. This makes it impossible to date this phase of fortification at this time.

In **Trench II**, excavated in 1964–1967, numerous features were discovered, including the remains of houses and an antler Workshop 1. In the case of Houses 2, 6, and 7, dates originating from older periods were obtained in addition to the early medieval dates. Previous dating of the features was based on the chronology of the layer in which they were located. The time of deposition of layer IV (Houses 2, 4, and 6) was determined to be the late 9th–early 10th century³⁹ or the second half of the 10th century.⁴⁰ Layer III (Houses 1 and 3) was thought to have been formed in the second half of the 10th and early 11th centuries⁴¹ or the first half of the 11th century.⁴² Layer II was dated from the first half of the 11th century to 1043 CE⁴³ or the 11th century in general.⁴⁴

Remains of antler **Workshop 1** were discovered in three layers of trench 2. On this basis, its functioning has so far been dated from the turn of the 9th/10th to the first half of the 11th century, or

³⁵ *Ibid.* 263.

³⁶ *Ibid.* 265.

³⁷ Cnotliwy 1970, 218–219.

³⁸ *Ibid.* 279. Sixteen years later, the author and his colleagues revised the chronology of both workshops to the period between the early 4th quarter of the 10th and mid-11th centuries (Cnotliwy *et al.* 1986, 74–75; 80–81). Despite this, he was more convinced of the original dating published in 1970 (Cnotliwy 2001, 140–141), which he also expressed by using this dating in developing antler workshops from the northern part of the old town (Cnotliwy 2016). For these reasons, in this study I adopt the 1970 dating as corresponding to the researcher's views.

³⁹ Cnotliwy 1970, 272.

⁴⁰ Wojtasik 1999, 345.

⁴¹ Cnotliwy 1970, 272.

⁴² Wojtasik 1999, 345.

⁴³ Cnotliwy 1970, 273.

⁴⁴ Wojtasik 1999, 346.

more precisely to 1043 CE.⁴⁵ The year 1043 CE given as the time of the end of its activity is due to its reliance on historical dating – linking the layers of burning observed in the excavation to the invasion of Wolin by Magnus the Good,⁴⁶ without, however, a clear source basis. Two ¹⁴C dates were obtained from features of Workshop 1. From hearth 9 comes an antler bolster for which the date 771–895 (88.6%), 820–883 (53.7%) cal AD (Lab. No. Poz-162476) was obtained. From pit 57 comes a fragment of cut antler for which the date 1016–1158 (92.7%), 1083–1128 (37.3%) cal AD (Lab. No. Poz-162635) was obtained. Thus, the dates do not correspond with the previously published chronology. Hearth 9 dates to the 9th century, while pit 57 probably dates to the late 11th and early 12th centuries. Two ¹⁴C dates of the early Middle Ages were obtained from **House 2**: 771–897 (88%), 820–886 (55.3%) cal AD (Lab. No. Poz-162477) from an antler needle, and 771–890 (82%), 785–836 (42.8%) cal AD (Lab. No. Poz-162478) from an antler awl. Two much older dates were also obtained: 197–40 (93.9%), 152–53 (68.3%) cal BC (Lab. No. Poz-162479) from the antler awl, and 154 cal BC–29 cal AD (93.4%), 56 cal BC–13 cal AD (54.3%) (Lab. No. Poz-162480) from the bone needle. Taking early medieval dates as a determinant of the creation of the features, House 2 functioned in the 9th century, with a slight chance of its origins in the late 8th century.

Three ¹⁴C dates were obtained from **House 6**: 824–988 (88%), 916–974 (40.3%) cal AD (Lab. No. Poz-162633) from a bone needle fragment, 201–47 (91.1%), 17296 (57.7%) cal BC (Lab. No. Poz-162485) from an antler fragment, and 2040–1891 (89.8%), 2027–1941 (68.3%) cal BC (Lab. No. Poz-162486) from a bone needle fragment. House 6 can therefore be dated to the 10th century.

One ¹⁴C date from a part of a bone needle was obtained from **House 7**⁴⁷: 824–988 (88%), 916–974 (40.3%) cal AD (Lab. No. Poz-162634), which allows this feature to be dated to the 10th century.

No dates from the early Middle Ages were obtained from Houses 1, 3, or 4, although the other artefacts uncovered in them unquestionably point to such a chronology. From **House 1** comes the ¹⁴C date 6839–6595 (80%), 6780–6642 (58.5%) cal BC (Lab. No. Poz-162456) from a semi-finished antler cladding. A cross denarius from the Magdeburg mint, dated 965–985,⁴⁸ was also discovered at this site in 1965, indicating that House 1 was built in the second half of the 10th century.

From **House 3** came two ¹⁴C dates: 6825–6499 (94.9%), 6698–6590 (64.5%) cal BC (Lab. No. Poz-162457) and 1222–1016 (95.4%), 1201–1140 (37%) cal BC (Lab. No. Poz-162458), both from antler fragments.

Three ¹⁴C dates were obtained from **House 4**: 56 cal BC–81 cal AD (90.8%), 46 cal BC–26 cal AD (68.3%) (Lab. No. Poz-162481) from an antler plate, 166 cal BC–11 cal AD (95.4%), 109–39 (56%) cal BC (Lab. No. Poz-162482) from an antler bolster, and 62–225 (95.4%), 119–204 (65.1%) cal AD (Lab. No. Poz-162483) from a bone needle fragment that was found in the pit of House 4.

#Head 2#Discussion

Before delving into the details of the dating of individual features, the research method used by the Silver Hill researchers in the 1960s requires comment, as it is relevant to determining the relationship between features, and therefore the dates obtained. They used two levels of description: layers, and within layers, features. Adopting the modern way of exploration and description of units, it should be assumed that all features discovered ‘within a layer’ are younger than it – however, this does not follow from the results of the study. Therefore, the chronological determinations for the ‘layers’ given by the site’s researchers are questionable, while the key to a future comprehensive study of Silver Hill is a detailed study of the site’s stratigraphy, as well as a focus on the materials from the enclosed features, which can give more certain results. The discrepancies among the authors in dating the ‘layers’ are more likely due to a stratigraphic method that had not yet been fully developed at the time of the study. An analysis of the ¹⁴C dating results of the northern ramparts indicates the need to correct the previous

⁴⁵ Cnotliwy 1970, 211; 271–273; 1973, 67–69.

⁴⁶ On Magnus the Good’s raid on Wolin see Morawiec 2023, 291–349.

⁴⁷ Unfortunately, the location of House 7 has not been published, despite the fact that it appears in the inventory of artefacts, and it was impossible to locate it within this study. It will be included during comprehensive analysis of all materials found and documented on Silver Hill.

⁴⁸ Horoszko 2014, 282–283.

chronology of the fortifications. A recent publication on the Silver Hill ramparts indicated that they were built in the first half of the 10th century. This finding was based on an analysis of the structure of the pottery found in layers ‘containing more numerous ceramic assemblages’ without indicating specific stratigraphic units, and on the chronology of a comb discovered in layer XVc.⁴⁹ Details of the pottery analysis, however, can be found in an older publication. In layer XVa, preceding the erection of the rampart and the ‘primary layer’ 33 vessel fragments were found, 16 of which were classified. These were exclusively partially formed on potter’s wheel vessels, mostly of the D/Menkendorf type, with single fragments of the E/Woldegk and F/Fresendorf types. About 100 vessel fragments were obtained from layers XVb, XVc, and XIVA, which researchers associated with Phase 1 of the rampart, 17 of which were classified. Here the majority (more than 50%) were D/Menkendorf type vessels with an admixture of C/Feldberg, E/Woldegk, F/Fresendorf, G/Vipperow, and M/Bobzin types. On this basis, they then dated the construction of the first rampart and the appearance of settlement on Silver Hill to the middle of the 10th century.⁵⁰ However, these results have a tenuous basis due to the small number of vessel fragments taken into account. They were discovered in the rampart layers, which underwent numerous transformations that are difficult to capture in excavation practice, especially since we are talking about studies conducted more than 60 years ago, that is, before methodological advances, especially the consideration of natural layers and the Harris matrix. This is, of course, also a weakness of the present study. However, it is also assumed that the collections analysed should include at least 50, and preferably more than 100 vessel fragments, because ‘with a small number of series, the distribution of the components of the ceramic assemblages may be quite random and may not reflect their actual structure.’⁵¹ It is also not possible to modernise the results achieved during the 1986 pottery analysis, since the authors did not publish the percentage data of the vessel assemblages. This makes it impossible to compare the assemblages again with the more recent results on the Wolin pottery.⁵² The ¹⁴C dating results obtained for layer XVII indicate that it was formed in the middle or second half of the 9th century. Cnotliwy believed that the layers deposited in the rampart’s trough, and thus also layer XVII, are slightly younger than the oldest rampart. This assumption seems plausible, but the current state of research makes it impossible to determine with certainty the temporal distance between the formation of the Ia rampart and the accumulation of layers in the rampart’s trough. This would mean that the first fortifications of Silver Hill could have been built as early as the 9th century, since the dating of layer XVII marks the *terminus ante quem* of the construction of the rampart. This means pushing back its dating by at least several decades. This picture is not disturbed by the dating recorded in the 1990s and calibrated by the author of this study of a sample ¹⁴C taken from layer XVa,⁵³ which was said to date from before the construction of the rampart.⁵⁴ The calibration resulted in a date with a very wide range, from the late 8th to mid-11th century. However, its narrower date range of 887–1028 cal AD (68.3%) also includes the 9th century.

Associated with subphase Ib was layer XII, located on the southern slope of the rampart. From this layer, the date ¹⁴C was obtained, which covers the time from the end of the 9th to the beginning of the 11th century. Thus, if the authors of the fortification analysis were correct in separating the two subphases of rampart I, then the second phase of its construction probably fell at the end of the 9th century, since this would make the dating consistent with the chronological determination obtained for the younger phases of the rampart’s construction. This is supported by the Bayesian modelling which indicated that this rampart was built around the end of the 9th century and functioned until the first half of the 10th century.

In the case of Rampart II, neither the crown of the rampart nor the wooden structures have survived. Cnotliwy associated layer XI, a thick earthen mantle, with this phase. A horn needle fragment was disburshed from this layer, yielding a ¹⁴C result from the late 8th to late 9th centuries. Thus, the dating

⁴⁹ Cnotliwy 2014, 259.

⁵⁰ Cnotliwy *et al.* 1986, 70–71.

⁵¹ Cnotliwy/Rogosz 1986, 19.

⁵² Dworaczyk 2019.

⁵³ Pazdur 1994, 159 Table 3.

⁵⁴ Cnotliwy 2014, 250–251.

range of this sample is clearly older than that of the sample from the older layer XII, but nevertheless they overlap just at the end of the 9th century. Cnotliwy dated this phase to the second half of the 10th century based on the dating of phases I and III of the rampart.⁵⁵ In this case the ¹⁴C results also indicate that Rampart II is at least 50 years older than the previous findings.

Rampart II was soon raised and widened – layers X and VII are associated with this activity. The sample from layer X dates from the 9th to late 10th century, while the sample from layer VII dates from the second half of the 9th to late 10th century. Given the dating of Rampart I and II, I assume that Rampart III was most likely created in the 10th century, with an indication of the first half of the century, which is also supported by the Bayesian modelling. Cnotliwy, on the other hand, dated this phase of the rampart to the late 10th and early 11th centuries, based on the structure of the pottery found in the layers forming the rampart's mantle, comparing it with the dating of corresponding layers in trenches 6 and 8 at the Old Town, where dendrochronological dates were also obtained. Currently the stratigraphical units there are dated from the mid-10th to late 11th centuries.⁵⁶

These ¹⁴C results are surprising,⁵⁷ especially since almost all previous researchers from the 1930s until 2014 unanimously pointed to the 10th century as the time when the Silver Hill fortifications were built.⁵⁸ Pre-war researchers allowed for the possibility that the fortifications were built in the early 10th century, believing that they were created simultaneously with the settlement of the town centre.

According to them, the ramparts were supposed to resemble structural solutions known from Hedeby,⁵⁹ although this hypothesis was criticised.⁶⁰ Only Wojtasik dated Rampart I to the turn of the 9th and 10th centuries, but without substantiating this hypothesis.⁶¹ Of course, the limitations of the method used must be taken into account. The objects found in the rampart layers may be significantly older than the construction of the fortifications themselves. In the process of pouring them, soil was certainly taken from the immediate vicinity, creating a moat and a ditch on the inner, southern side. In the process, it is possible that older structures were disturbed and older objects were transported along with the soil.

However, it is also possible that these objects are contemporaneous with the pouring of the embankment. The consistency of the chronological sequence obtained in the ¹⁴C survey and the stratigraphy analysis may point to the latter eventuality. Only one date was clearly older than the others

⁵⁵ *Ibid.* 262.

⁵⁶ Michezyński/Rębkowski 2019, 111 tab. 9.

⁵⁷ Dates obtained from periods much older than the early Middle Ages require separate comment. As many as 11 samples yielded such results, covering the time from the Mesolithic to the Late Roman period. Some of them were taken from artefacts (bone needles, horn comb blanks, antler awl) that were considered early medieval because they were discovered in layers or sites containing objects of this chronology in bulk. These results also have a spatial regularity – they were obtained from objects found in the remains of houses in Trench 2. None of the older dates came from artefacts discovered in antler workshops. This is difficult to explain, but undoubtedly the dates obtained are not coincidental. There may have been an older settlement on Silver Hill, covering the period from the Mesolithic to the beginning of our era. Its remains may have been disturbed during the construction of early medieval buildings, and the antlers lying in them used secondarily to make tools. It is also possible that items and not only raw material from this period were secondarily used. These include a semi-finished horn cladding from the Mesolithic period (inv. no. 1704/65), a part of bone needle from the early Bronze Age (inv. no. 1853/66), an antler awl (inv. no. 1573/66), a bone needle (inv. no. 1624/66), an antler plate (inv. no. 1125/66), an antler bolster (inv. no. 1166/66) from the La Tène period, and part of a needle (inv. no. 1855/66) from the period of Roman influence. These items require closer examination in the course of developing the entire collection from Silver Hill. Undoubtedly, however, the issue of the use of secondary antler and bone raw material, as well as finished objects, even from very distant periods, is worthy of further study, since such a large number of samples with such results indicates that this is not a marginal phenomenon. Other categories of artefacts, discovered in settlements and cemeteries from present-day Poland – such as Eneolithic flint, prehistoric clay vessels, weaponry and pins from the Lusatian Culture, or glass beads, fibulae, and coins from the Roman period – were also sometimes secondarily used in the early medieval period. Such items may have had special significance for users, as second-hand objects such as gems were used by rulers of the time and had diplomatic significance (Kurasinski et al. 2015, 143–149). In Wolin, a *Knotenringe* from the younger pre-Roman period has also been discovered at the Gardens site (Janowski/Rogalski 2019). So far, no settlements from this time have been found in the Wolin area (Rogalski 2010, 442 map 3 no. 62); however, the large set of dates combined with the discovery of the ring may indicate that they existed somewhere within Silver Hill.

⁵⁸ Cnotliwy 2014, 259, older literature, see also Stanisławski 2013b, 86; Filipowiak/Stanisławski 2014, 390.

⁵⁹ Wilde 1940, 194.

⁶⁰ Hensel 1948, 152; Leciejewicz 1962, 80.

⁶¹ Wojtasik 1999, 347.

and pointed to the Late Roman period.

Wojtasik believed that the settlement on Silver Hill was established in the middle of the 9th century, which could correspond with the results obtained. This would mean that the settlement was immediately surrounded by fortifications. That is why we will look at the dating of the features themselves – the houses and craft workshops discovered on Silver Hill.

In addition to the remains of fortifications, Trench 1 also uncovered features that Cnotliwy interpreted as the remains of an antler workshop, Workshop 2 (Workshop 1 was discovered in Trench 2, described below). It would have consisted of a craftsman's house (pit 3) and hearths. The researcher dated the workshop to the first half of the 11th century on the basis of stratigraphic indications and historical dating, identifying the recorded charred structures in layer V with Magnus the Good's invasion of Wolin in 1043 AD. The obtained ¹⁴C dates indicate that, at least in the case of the presumed house, i.e. pit 3, Cnotliwy may have been right. The dated sample indicates that the structure is dated to the late 10th and first half of the 11th century. However, the hearths near this hut turned out to be much older: Hearth 1, in which a fragment of a soapstone vessel was also discovered,⁶² dates to the first half of the 10th century. The pit also had an internal stratigraphy of waste and burning, which may allow for more precise dating of its use in the future. Hearth 2, on the other hand, dates to the second half of the 10th century. Undoubtedly, therefore, they are older than layer III, with which they were linked in the course of the research. Cnotliwy believed that layers III and V formed one settlement level. At the same time, however, he mentions that there was no contact between the two units, as they were separated by a belt of calcite. The researcher connected them on the basis of similarities in content.⁶³ The results of ¹⁴C indicate that Workshop 2 was in use from at least the first half of the 10th century until the middle of the 11th century.

The remaining dated features were discovered in Trench 2. Features associated with Workshop 1 were recorded in layers II–IV. Cnotliwy dated layer IV from the turn of the 9th/10th century to the middle of the 10th century, layer III to the second half of the 10th and the beginning of the 11th century, and layer II to the first half of the 11th century to 1043 AD, linking the recorded destruction and scattered fragments of human skeletons to the invasion of Magnus the Good.⁶⁴ The results of ¹⁴C showed that pit 57 linked with Layer IV dates from the late 11th and early 12th centuries. The ¹⁴C sample dated in the 1990s⁶⁵ and recalibrated to the period from the second half of the 10th to the middle of the 12th century also comes from the same layer (Lab. No. Gd-1954). Meanwhile, the sample from hearth 9, which is combined with layer III (Cnotliwy places this hearth in the study in layer II), was disburied for the period from the late 8th to late 9th centuries, with an indication of the 9th century. Thus, it is clear that the stratigraphy requires a new interpretation, which may be hampered by the exploration methods used. Therefore, Workshop 1 functioned both in the 9th century and also between the late 10th and mid-12th centuries. Thus, as in the case of Workshop 2, there is a horizontal chronology, and the features are not contemporaneous.

Two features interpreted as Houses 1 and 3 were discovered in layer III in Trench 2. Unfortunately, in both cases all obtained ¹⁴C dates are not from the Early Middle Ages but from the Mesolithic (House 1) and Mesolithic and Bronze Age (House 3). Undoubtedly, however, they have an early medieval chronology, as artefacts from this period were discovered in both. In addition, a cross denarius from the Magdeburg mint, struck between 965 and 985, was found in House 1,⁶⁶ indicating that the house was functioning in the second half of the 10th century. Not far from the houses, a cross denarius minted between 1000–1030⁶⁷ was found in layer III; however, its relation to the discussed features is unknown. According to those conducting research on Silver Hill in the 1960s, Houses 2, 4, and 6 were discovered in layer IV. House 2 is special because of its spindle or boat shape. It was also included among the Wolin wrecks (marked number IV) due to the hypothesis that it is the remains of a workshop

⁶² Cnotliwy 1970, 274.

⁶³ *Ibid.* 218.

⁶⁴ *Ibid.* 272–273.

⁶⁵ Pazdur *et al.* 1994, 159 Table 3.

⁶⁶ Horoszko 2014, 282.

⁶⁷ *Ibid.* 282.

functioning in an upside-down boat.⁶⁸ The object has also been interpreted as a Scandinavian ‘longhouse.’⁶⁹ These interpretations have been challenged, leaving as the most likely hypothesis that the object was a seasonally functioning craft workshop.⁷⁰ So far, the dating of the house has been based on layer IV dating; however, the results of ¹⁴C indicate it dates to the 9th century, with a small possibility that it may have been functioning in the late 8th century. It is therefore at least a century older than the previous indications. The other two ¹⁴C dates of House 2 are from the Late Roman period.

House 6 was rectangular in shape. One early medieval ¹⁴C date from this structure indicates that it was in use in the 10th century, with a slight probability of functioning in the 9th century. A Haithabu semi-bracteate dated to 965–985⁷¹ was discovered in the upper layer of the house remains, which may indicate that the last phase of its use was in the second half of the 10th century. The other two ¹⁴C dates are from the Early Bronze Age and the Late Bronze Age.

The above results were compared with dendrochronological and numismatic datings from Silver Hill (Tab. 1, 2). In 1986, trench 4, located at the edge of the wet meadows of the site near the Dziwna Strait, was excavated. Due to the wet environmental conditions, objects and organic structures from the early Middle Ages were preserved in good condition. The remains of wooden wharves or piers were then discovered. They were sampled for dendrochronology, yielding dates of 838 AD, 889 /⁺¹⁵-10 AD and 902 /⁺¹⁵-10 AD⁷² (Fig. 7). Thus, the wharf was in use from the first half of the 9th century to the early 10th century. Additionally, in 2006, a group of detectorists robbed a silver treasure hoard on Silver Hill, which has only partially been recovered. The elements of this treasure available for research have made it possible to determine that it was hidden in the years 980–983/984 AD.⁷³

Putting these data together, it is possible to hypothesise that Silver Hill was most likely settled as early as the first half of the 9th century and was already fortified at that time, as indicated by an analysis of the chronology of the Ia rampart. Also dating from the 9th century is the reconstruction of the rampart, i.e. phase Ib, as well as elements of Workshop 1 and House 2. The latter draws particular attention, as there is a slight probability of pushing back the beginnings of settlement on Silver Hill to the late 8th century based on it. It is particularly interesting because House 2 has an unusual spindle shape and contained a very diverse set of artefacts, as well as a fragment of a human skull.⁷⁴ The uncovered wharf was also in use in the 9th century. Settlement intensification in the 10th century, along with economic growth, is therefore a continuation, not a breakthrough. Evidently, however, the mid-11th century marks an important caesura at the site, perhaps rightly linked to the invasion of Magnus the Good in 1043 AD.

The dating results were compared with the chronology of settlement at the nearby site of the Gardens, located in a depression of land between Silver Hill and the Old Town (Tab. 2). The site was covered with densely placed wooden houses, preserved thanks to the wet depositional conditions. Numerous dendrochronological dating have made it possible to separate three settlement phases. The first of these is dated to the second half of the 9th century to around 940. After this time, there was a settlement hiatus caused by a rise in the water level in the Dziwna Strait. Settlement returned to this place in the second half of the 10th century and lasted until the middle of the 11th century. The third phase occurred after the middle of the 11th century, but is as yet undated.⁷⁵ I have already pointed out⁷⁶ that there are serious problems with these results, especially since, as at Silver Hill, historical dating was used – I only rely on it because it is the latest and only available dating at the moment.

⁶⁸ Filipowiak, Wł. 1972, 13; 1994, 91.

⁶⁹ Wojtkowiak 2012, 127.

⁷⁰ Filipowiak 2022b, 66–71.

⁷¹ Horoszko 2014, 282–283.

⁷² Janowski 2014, older literature there.

⁷³ Bogucki/Malarczyk 2014, 314.

⁷⁴ Filipowiak 2022b, 67–69.

⁷⁵ Filipowiak/Stanisławski 2013, 181–189.

⁷⁶ Filipowiak 2020, 324.

This comparison shows that settlement initially appeared on Silver Hill in the first half of the 9th century, and perhaps even in the late 8th century. After 838, a presumed wharf was also constructed on the border of the wet meadows at the foot of the hill. In the second half of the 9th century, development also extended to the wetland Gardens between the elevation and the Old Town. Thus, the direction of spatial development was the opposite of what has so far been assumed.⁷⁷ Settlement from Silver Hill gradually moved southward, covering first the wet meadows and then the marshes of the Gardens district.⁷⁸ The possibility of expansion from the centre of the town towards the north can also be taken into account, but here fortifications, existing since the first half of the 9th century, could stand in the way. Nevertheless, such an eventuality cannot be ruled out at this stage, as the course of the early medieval ramparts is still hypothetical.⁷⁹ A particular example of this is the rampart or dike discovered in the rescue excavation at site 17, which was located nearly 200 meters northwest of the supposed course of the Old Town's embankment.⁸⁰ Moreover, this structure was supposed to run on an east-west axis, so it does not fit completely with Cnotliwy's proposed reconstruction of Wolin's fortifications, nor was it included by the author.

The dating of this part of the town was compared with recent research results for settlement in the Old Town area, considered the centre of the early medieval agglomeration (Tab. 2). According to a detailed analysis of both artefacts (pottery, dating objects) as well as numerous dendrochronological and ¹⁴C dates, it was convincingly proved that early medieval settlement in this area appeared at the end of the 8th century in the form of an open small settlement on the upland near the narrowest crossing of the Dziwna Strait. In the middle of the 9th century a radical change took place and a settlement with planned, dense buildings was established, successively expanded in several phases. Perhaps at that time the site was surrounded by a palisade.⁸¹ Researchers give different chronologies for the beginning of the fortification of the Old Town: either the first half of the 9th century,⁸² the 3rd and 4th quarters of the 9th century,⁸³ or the second half of the 9th to the beginning of the 10th century.⁸⁴

In the second half of the 9th century the settlement stretched 150–200 m wide along the Dziwna Strait;⁸⁵ at that time or at the turn of the 9th and 10th centuries it was surrounded by a rampart.⁸⁶ The next phase of fortifications was built in the early or second half of the 10th century⁸⁷, while in the 11th century the ramparts were rebuilt twice.⁸⁸ The peak of economic development occurred from the beginning of the 10th century to the first half of the 11th century, especially in the second half of the 10th century.⁸⁹ In the 12th century, Wolin became a town under ducal law, while in the second half of the 13th century there was a charter of the town under German law.⁹⁰

Despite the very large number of chronological determinations obtained by absolute methods, opinions on the moments when successive stages of fortifications were built clearly differ. This makes it difficult to formulate conclusions and probable hypotheses about the history of the town. The results obtained for Silver Hill suggest that the fortifications of this site may have been built even earlier than those of the Old Town. However, due to the ground-breaking nature of such information, one should be

⁷⁷ Filipowiak/Konopka 2008, 253; Filipowiak/Staniławski 2014, 390; Rębkowski 2020, 51.

⁷⁸ A version of this view was presented by Łosiński 1982, 126; Cnotliwy *et al.* 1986, 83–84.

⁷⁹ Rębkowski 2019, 140.

⁸⁰ Filipowiak, Wł. 2004, 55; Filipowiak/Staniławski 2013, 167–168; unfortunately the documentation for this site is scarce.

⁸¹ Rębkowski 2019, 138–139.

⁸² Filipowiak/Staniławski 2014, 389.

⁸³ Łosiński 1982, 126.

⁸⁴ Staniławski 2013b, 102; Cnotliwy 2014, 203; Rębkowski 2019, 139.

⁸⁵ Rębkowski 2019, 139.

⁸⁶ Cnotliwy 2014, 200–201.

⁸⁷ Staniławski 2013b, 102; Cnotliwy 2014, 210.

⁸⁸ Rębkowski 2019, 140.

⁸⁹ cf. Filipowiak/Konopka 2008, 253–259; Staniławski 2013b, 231–258; Filipowiak/Staniławski 2014, 391; Urbańczyk 2014, 137; Staniławski 2017, 147; Rębkowski 2019, 142; Filipowiak 2022b, 44.

⁹⁰ Rębkowski 2019, 146–150.

suspicious of such results. Both the data, which are very preliminary and little documented so far, on the pottery discovered in the layers, as well as the fact of obtaining the oldest ¹⁴C dates from the embankment layers, allow us to assume that the oldest rampart was rather created in the first half or the middle of the 9th century. It is difficult at this stage to synchronise the dating of the fortifications of Silver Hill and the Old Town, since in both cases there are quite divergent opinions regarding the chronology of successive phases, while the absolute dates themselves have quite a wide range. The task is also not made easier by the fact that in both cases the data comes from excavations surveyed in the 1950s (Old Town) and 1960s (Silver Hill), so long before the single context method was fully developed in Polish archaeology.

However, based on the results obtained in this study, it is possible to formulate a hypothesis that the fortifications of Silver Hill and the Old Town were built simultaneously. Similar ideas were already put forward in the 1940s; nevertheless, at that time the beginning of both ramparts was dated to the 10th century.⁹¹ Lech Leciejewicz, on the other hand, shifted the chronology of the phenomenon in question to the 9th century, stating that the beginnings of settlement on Silver Hill could date back to the settlement in the Old Town.⁹² The latter hypothesis is supported by the ¹⁴C determinations obtained for features discovered on Silver Hill. Also, not only fortifications, but also a settlement was established in light of these data in the first half of the 9th century, and perhaps even in the late 8th century. In this case, settlement in the Old Town and on Silver Hill appears simultaneously. It is extremely interesting that the oldest feature on Silver Hill is a spindle-shaped (or boat-shaped) house, a form foreign to the Slavic cultural circle. At the same time, a set of typically Slavic pottery was discovered in it, as well as an interesting set of artefacts representing various crafts, and even human remains.⁹³ Thus, this house requires detailed study as a key element of the town's history.

It has been accepted among researchers that early medieval trade centres on the southern Baltic coast generally emerged according to three patterns: a foreign one, associated with the Scandinavians (the so-called *Seehandelsplatz*), an indigenous one, involving the integration of coastal towns such as Kołobrzeg and Szczecin into Baltic trade, and a mixed one.⁹⁴ Wolin has so far eluded clear classification, with many scholars leaning toward the native-Slavic model, even going so far as to consider Wolin a Slavic town-state;⁹⁵ others, however, classify it under the foreign/Scandinavian or so-called 'colonial' model⁹⁶ or as the mixed model;⁹⁷ still others deny it had the status of an emporium in the 9th century at all.⁹⁸

The resolution of this problem is important for the history of urbanisation of both Slavic cultures and the Baltic zone as a whole, since during the early Middle Ages it was the largest craft and commercial centre on the Baltic Sea. The view of the evolutionary spatial development of the centre, growing from a small settlement to a fortified centre and later developing many 'districts' – northern (Gardens, Silver Hill), western (site 17), and southern (Southern Suburb) – has not been challenged so far. Such a vision, supported by the results of archaeological research, has been presented in almost every publication on early medieval Wolin. At the margins, two separate ideas have emerged in the form of outlined hypotheses. According to Błażej Stanisławski, Silver Hill and the Old Town were two separate strongholds – the sacred and profane zones, respectively. Stanisławski supported this idea by the fact that both sites had their own fortifications, and by its analogy to Kalisz.⁹⁹ Similarly, Przemysław Urbanczyk's hypothesis that these 'districts' were separate parts of the agglomeration, to which the

⁹¹ Wilde 1940, 194.

⁹² Leciejewicz 1962, 56; 74, especially 77.

⁹³ Filipowiak 2022b, 67–71.

⁹⁴ Cf. Callmer 1994; Łosiński 1994; Bogucki 2004; 2010a; 2010b; Biermann 2006, 17–18; Kleingärtner 2014; Rębkowski 2019, 138; 2020, 40.

⁹⁵ Filipowiak/Konopka 2008, 275–281.

⁹⁶ Rębkowski 2020, 52.

⁹⁷ Bogucki 2010a, 268; Stanisławski 2013b, 226–253; 2017, 147–151; Messal 2017, 112.

⁹⁸ Sindbæk 2006, 268–271.

⁹⁹ Stanisławski 2013b, 258, fn. 345; however, Stanisławski 2013a, 33–35 differs.

various toponyms found in medieval written sources would refer, has so far found no supporters.¹⁰⁰ Meanwhile, the present research results, although not yet conclusive, fundamentally change the picture of the origins of early medieval Wolin, as they allow two new hypotheses to be formulated. The first concerns the very beginnings of Wolin, which was said to have grown from a small settlement in the area of today's Old Town.¹⁰¹ The earliest date ranges obtained for Silver Hill allow for the possibility that there was a settlement there as early as the late 8th century. This would mean that when a settlement consisting of half-sunken houses existed in the Old Town area, whose inhabitants serviced the crossing of the Dziwna Strait, at least one boat-shaped house was built on Silver Hill. The two settlements were separated by a strip of marshy meadows. Frisian combs and rhinestone beads have been discovered in the oldest settlement in the Old Town, suggesting that even then the inhabitants had some contact with foreigners. Perhaps, then, Silver Hill was a kind of wintering ground, a trading post for Scandinavians or Frisians and contact with the local population? It is possible that the model of a Scandinavian colony advocated by Sunhild Kleingärtner would fit here.¹⁰² After a few decades, the settlements grew and merged into a single early urban agglomeration. This is again a vision of genesis different from the one indicated by the last few decades, in which only the settlement in the Old Town was supposed to have given rise to the town.

According to the second hypothesis, the settlement and fortifications of Silver Hill were established simultaneously with those of the Old Town in the middle of the 9th century. This would mean that the urbanisation breakthrough in Wolin occurred in a short period of time, thus contradicting the previous thesis of the evolutionary growth of the centre. The area of the Old Town, Silver Hill, and the Gardens totals nearly 18 hectares, indicating a gigantic undertaking during the 9th century. The role and nature of the settlement south of the town centre is also still unclear. A settlement is thought to have existed there in the 9th century, which developed into an extensive suburb with fortifications in the 10th century.¹⁰³

It is usually assumed that the short time and momentum of the process suggest a strong central executive. In the case of Pomerania, this role would have been performed by tribal elites.¹⁰⁴ Early urban republics from this region, ruled by tribal elders, maintained their independence until the early 12th century at the latest.¹⁰⁵ Written sources on Wolin leave no doubt that the town was ruled by tribal elders in the 10th and 11th centuries.¹⁰⁶ It has also been pointed out that Scandinavians played a major role in the development of the Wolin centre.¹⁰⁷ However, there are also examples from other cultural circles of the execution of gigantic urban investments in egalitarian environments without a central power,¹⁰⁸ so I leave the question of interpreting this process open at this time. Undoubtedly, however, in the light of this study, it appears to be much more dynamic than previously thought.

I agree with Mateusz Bogucki¹⁰⁹ that the division of early medieval craft and trade centres into three urbanisation models seems too simplistic, and that each centre had its own individual character and course of development. Of course, in order to try to understand large historical processes, far-reaching generalisations are undoubtedly necessary; nevertheless, in the case of Wolin, attempts to fit the results of research into one of the three models mentioned may result in a loss of information rather than a gain. Thus, the proposed models – based on a truncated database – may also be inaccurate. It is clear that the case of Wolin requires further in-depth studies.

¹⁰⁰ Urbańczyk 2014, 137–138.

¹⁰¹ Rębkowski 2019, 136–137; 2020, 52.

¹⁰² Kleingärtner 2014, 177.

¹⁰³ Filipowiak/Staniłowski 2013, 390.

¹⁰⁴ Bogucki 2010b, 160–161; Rębkowski 2019, 145.

¹⁰⁵ Rębkowski 2020, 106.

¹⁰⁶ Labuda 1954, 185; 277–278; Tschan 2002, 66–68; Kiersnowski 1950, 39; Jedlicki 2005, Rev. VI, 33; with reservations Labuda 2003.

¹⁰⁷ See Staniłowski 2013b, slightly different Duczko 2014.

¹⁰⁸ Graeber/Wengrow 2022, 285–367.

¹⁰⁹ Bogucki 2010a, 268.

#Head 2#Conclusion

The performed ¹⁴C dating of the Silver Hill artefacts and their interpretation showed that the site may be crucial for understanding many problems of the history of early medieval Wolin, including its origins and relations with the Scandinavians. Both hypotheses – about the formation of Wolin as a result of the merger of two settlements of perhaps different ethnic characters, and the sudden urbanisation breakthrough in the middle of the 9th century involving both the Old Town and Silver Hill – significantly change the existing perception of Wolin's origins. However, they were based on premises derived from the new dating of Silver Hill, as well as existing knowledge regarding other parts of early medieval Wolin. Undoubtedly, they need to be carefully approached and confirmed, firstly through a detailed and as complete as possible study of the materials from Silver Hill obtained during excavations in the 20th century.¹¹⁰ Of particular import is the study of the boat-shaped House 2 which seems the oldest at the site. The question of the presence of foreigners at the site may also be addressed by a reanalysis of skeletal burials discovered in the second half of the 20th century at the biritual cemetery of Młynówka, dating from the 10th to the 12th centuries, located in the immediate vicinity of Silver Hill.¹¹¹ The debate over the significance of these burials has been going on for years, one interpretation being that some of those buried in this way were of foreign/Scandinavian provenance and that their sepulchral customs were adopted by local elites.¹¹² Testing the remains for strontium isotopes, genetic analysis, and ¹⁴C dating may shed new light on this issue.

It is possible that new excavations of Silver Hill will be necessary to obtain samples or determine detailed stratigraphy. The question of the course of the fortifications of early medieval Wolin (especially its northern part) also requires a fresh look, since the reconstructions so far are based on a large amount of conjecture. And here, verification research may be necessary, since most of the data comes from excavations conducted nearly 70 and 100 years ago, while other sources were obtained during archaeological supervisions or interventions in construction trenches.

¹¹⁰ The author has prepared a project to develop and publish these materials. It is currently awaiting a decision on funding in the competition of the National Program for the Development of the Humanities of the Ministry of Science and Higher Education.

¹¹¹ Wojtasik 1968.

¹¹² See Rębkowski 2020, 88; 2023, 211–215.

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