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The beginnings of the Teutonic state in the light of the latest studies

Abstract. In 2016–2018, non-invasive and archaeological research was carried out in historical Chełmno Land in north-central Poland as part of the 'Castra Terrae Culmensis, at the edges of the Christian world' (project 'Castra Terrae Culmensis – na rubieży chrześcijańskiego *świata*'), whose main aim was to clarify key questions regarding the beginnings of the State of the Teutonic Order in Prussia. Discoveries included the remains of a previously unrecognised stronghold founded in the 1230s and a castle in Unisław that was the residence of the Teutonic commandry beginning in the 1280s. After a search of lasting more than 100 years, the relics of Chełmno, the oldest Teutonic city after Toruń, were also discovered. The article presents the results of geophysical, archaeological and geomatic analyses that confirm historical records in the 14th-century Teutonic Chronicle and helped to reconstruct the history of the oldest Teutonic earth-and-timber strongholds and cities chartered under Chełmno law stood.

Keywords: Chełmno Land, Teutonic Knights, archaeology, architecture, wood and earth fortresses, brick castles, medieval cities.

Introduction

The Knights of the Teutonic Order arrived at the Polish-Prussian border in 1230, where they built their first strongholds (Nieszawa, Vogelsang, Stary Toruń; Poliński 2003, pp. 171–172; Dygo 2008, pp. 64–65). In the following years, they subjugated new areas, moving along the Vistula and the Vistula Lagoon, conquering the lands of pagan Prussia. In the conquered territories they reinforced their power by erecting numerous earth-and-timber strongholds. At the same time, they established their first cities (such as Toruń and Chełmno) (Czaja 2000, pp. 47–49). Strongholds were established on the sites of older fortified settlements or in new, previously uninhabited places. The Prussian uprising of the 1240s exposed the weaknesses of the earth-and-timber strongholds, which in most cases were captured. Probably

this, and the new administrative organisation (commandry) of the Prussian lands, provided the impetus to erect the first masonry-wall structures in the mid-13th century within old strongholds (Toruń, Starogród), and in the second half of the 13th century, other, older buildings were converted into brick castles (e.g. Bierzgłowo, Grudziądz, Pokrzywno) (Wasik 2016a, pp. 315–317; 2016b, pp. 244–252). The 1280s are an important turning point in the history of the Teutonic State in Prussia. Once the uprising had been suppressed, the conquest of the Prussian lands was completed. Stabilisation made it possible to significantly extend settlement and consolidate the religious administration. At that time, the conditions for the development of brick construction arose (Arszyński 2010, pp. 11, 14; Wasik 2016a, pp. 317–318). During this period, a new model of the commandry castle was adopted in Prussia – a four-sided castle that was known in 13th-century Europe and associated with strong centralised rule (Durdík 1993, pp. 47–48; Skibiński 1994, pp. 32–36; Wasik 2016b, pp. 322–325).

Brick Teutonic castles are one of the most characteristic features of the landscape of Chełmno Land, and shape our knowledge about the medieval past of this part of the country. They include well-preserved objects (Bierzgłowo), while some have survived to the present day as ruins (Papowo Biskupie, Lipienek) and others have been completely destroyed (Unisław, Starogród). The results of recent archaeological and architectural studies have provided many new data showing, among other things, that strongholds differed in architectural form, but also in construction technique and the course of the construction process.

The oldest regular castles were a group of buildings erected from the turn of the 1280s. At almost the same time, regular castles were being built in Chełmno Land (Torbus 2014, pp. 93–202). These were the first full, four-wing Teutonic castles, the earliest examples of which included Papowo Biskupie and Lipienek. Studies conducted in 2005–2012 showed that the castles were not usually built at the site of a former earth-and-timber stronghold. At the same time, the construction of older, irregular castles continued (e.g. Toruń, Starogród, Bierzgłowo) to layouts with several wings in imitation of regular castles. In the Chełmno region, smaller castles were also built as the headquarters of lower-ranking officials. From the 1320s or 1330s onwards, commandries were taken over by new administrative units directly subordinate to the grand masters and supporting the central state finances (Jóźwiak 2001, pp. 137–138). These castles may have been in the form of a reduced regular castle (e.g. Bratian; Kurzętnik) (Herrmann 2007, p. 81; Wasik 2016a, p. 329), a residential tower or a tower house (*Festes Haus*).

For many years there has been discussion on the pattern according to which the construction of Teutonic strongholds developed. Based on historical records and archaeological findings to date, it has been assumed that most of the masonry-wall Teutonic castles were erected at the site of earlier fortifications (of Slavic or Prussian tribes). As a rule, the oldest Teutonic defensive structures were made of earth

and timber; they were successively replaced with brick and stone structures. We can draw such conclusions primarily thanks to the 14th-century chronicle of Peter of Dusburg, which contained descriptions (of various levels of detail) relating to fortifications from the period in which the monastic state was being formed (*Piotr z Dusburga* 2004). In analysing this problem reference is very often made to an interesting historical source that describes the condition of Chelmno Land before the arrival of the Teutonic Knights and is known as the document of Lonyz. It lists over 20 towns, which include former fortified settlements (*quondam castra*) (e.g. Powierski 1983, pp. 17–18; Poliński 2003, pp. 125, 172). To date, it has been possible in only a few cases to confirm which Teutonic objects were erected at the sites of earlier gord-type settlements (which we refer to herein simply as earth -and-timber, fortified settlements') (Poliński 2003; Wiewióra 2016).

The following issues therefore remain unexplained or poorly understood: were the castles always built at the site of earlier defensive settlements, and what were the construction stages (a wooden phase, a brick phase)? The spatial layouts of the castles, which in many cases originated in the latter 19th century, were verified based on historical information (inspection and lustration records, etc.), and only to a very limited extent on archaeological research. This required that such wide-ranging works and architectural studies be conducted, and that their layouts be re-examined using the available historical information. The final issue in the archaeological research was to also attempt to indentify the chronology of castles. It was also the most difficult task, given that the results of the archaeological works carried out in the 1950s, 1960s and 1970s unsupported by specialised studies, could only introduce few significant changes in this matter.

The 2016–2019 studies focused on five structures that had not previously been recognised or had been identified only unsatisfactorily, and at the same time ensured that key questions were answered (Fig. 1).

Old Chełmno (*Stare Chełmno, antiquum Colmen, Althaus Culm*) was, before the arrival of the Knights of the Teutonic Order, a large fortified settlement complex in the area of what is today the village of Kałdus (Chudziak, Bojarski 2015, pp. 85–86). In 1232, during the Crusade, Herman Balk founded a new stronghold and town based on Chełmno Law 1.6 km as the crow flies south of the older fortified settlement (Heise 1887, pp. 16–17; Löwner 1998, pp. 113–114; *Piotr z Dusburga* 2004, p. 49). This centre was soon translocated once more (Jóźwiak 1996). The beginnings of the construction, in Starogród, of an earth-and-timber stronghold, and then a brick castle, have never been sufficiently explained. In the years 1246–1285, the castle was probably the first commandry headquarters of Chełmno Land (Torbus 1998, p. 70; Jóźwiak 2001, p. 45), and in the 1250s[1] the Stary Chełmno Commandry was established there. It has thus been assumed to

[1] It is now known that it could not have been built before 1250. The first mention of the commandry dates to 1251 (Löwner 1998, pp. 165–166; Jóźwiak 2001, pp. 49–50).

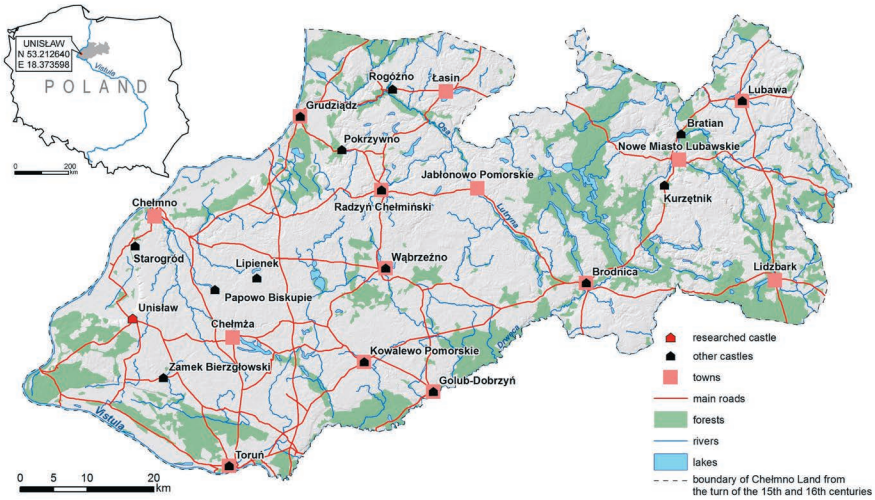

Fig. 1. Teutonic Order castles of Chełmno Land (edited by P. Molewski)

be one of the oldest brick Teutonic castles (Heise 1887, p. 16; Steinbrecht 1888, p. 19; Torbus 1998, p. 337). The beginning of the transformation of the earth-and-timber stronghold into a brick one dates back to around the mid-13th century.

Until the beginning of non-invasive studies in 2016, the castle in Unisław was a scientific mystery. Like the stronghold in Starogród, it was situated on a promontory protruding into the Vistula valley. Its date of construction and layout were unknown. The written sources show that, just prior to 1285, the Teutonic Knights established a commandry here that was closed down in the second quarter of the 14th century and replaced by a procurator's office (Jóźwiak 1997, pp. 183–187; 2001, pp. 60, 136).

The Bierzgłowski castle is the best-preserved of the analysed group of defensive strongholds, and belongs to the oldest of the so-called irregular Teutonic strongholds erected beginning in the 1250s. In this case, both the clear spatial layout, which did not require major corrections, and the fact that the structure is in current use made it difficult to conduct full, extensive excavations designed, among other things, to solve the issue of the previous Teutonic settlement that lay beneath the foundations of the brick building. The Bierzgłowski commandry appears relatively late in the written sources (in 1270) and the beginning of the construction of the castle dates to this period (Jóźwiak, Trupinda 2020, pp. 132–135). However, the preserved historical records inform us that the Teutonic Knights had built an older stronghold in the place of an even older fortified settlement conquered in 1236. It belonged to the mighty

Prussian, Pipin[2]. However, the first certain mention of the Bierzgłówski stronghold dates to 1262, when knights took refuge from Prussian attackers in the tower (*Piotr z Dusburga* 2004, p. 135; Torbus 1998, p. 361). This information probably concerns the earth-and-timber stronghold, because there is no evidence that the brick castle, which did not exist in the 1260s, had a tower.

In Papowo Biskupie there was a castle from the 1280s to the beginning of the 14th century. Archaeological research was conducted there in the years 2005–2008 and 2012 (Momot *et al.* 2014, pp. 65–97). The research, carried out as part of the current project, aimed to verify a hypothesis that a second, as then unremarked, bailey had existed on the west side of the castle.

All the investigated castles are located in the south and west of Chełmno Land. The strongholds in Starogród and Bierzgłowo were probably built during the inception phase of the State of the Teutonic Order. According to historical sources, as early as in the 1230s, an earth-and-timber complex was built in Starogród. The oldest wooden stronghold in Bierzgłowo may also have been built at the same time. These assumptions about both structures were unverifiable until the beginning of the project. The castles in Papowo Biskupie and Lipienek belong to the second, younger group of strongholds whose regular outline resulted from planned construction on what was assumed until the beginning of archaeological research to be an uninhabited site. With regard to the castle in Papowo, where archaeological research was carried out in 2005–2012, it was confirmed that the brick four-sided castle was built on virgin land, but the same could not be done for the castle in Lipienek. Although it belonged to the same, early group of regular structures, archaeological research conducted in the bailey in the 1990s showed traces of 11th-century settlement. It was thus reasonable to suspect that the brick castle was built at the site of a Slavic fortified settlement, which the historical sources also mention. There was a lack of information about the youngest structure – in Unisław – and its surroundings until project works began: the date of its construction, its form and layout and its later history were unknown.

Methods

The project included plans for non-invasive, geomatic, archaeological-architectural and environmental studies. The non-invasive tests included the aerial

[2] There is still no agreement among scientists, and not only about the figure of Pipin, although no one questions the veracity of the information that first appears in the chronicle of Peter of Dusburg. The disagreements are mainly over the location of Pipin's 'fortified settlement', which, according to some, was located on the site where the castle in Bierzgłowo was later erected, or in nearby Pigża. Other researchers seek its location in Pomesania (Białuński 2010, p. 93 – see further literature therein). The more recent literature no longer addresses the issue of the presence of Pipin's stronghold in Bierzgłowo.

photography and converting that data into orthophotomaps, a digital surface model, a digital elevation model and a digital land cover model. The most important feature of these works was, however, the conducting of an extensive reconnaissance, using magnetic measurements and electrical resistivity prospection[3].

The geographical and geomorphological studies included a physiographic description of the castle location and surroundings and a reconstruction of the original topography, which has changed mainly as a result of natural landslide processes caused by human activity (Molewski *et al.* 2018). These studies used digital and analogue geospatial data from state institutions, as well as geological maps (Kozłowska, Kozłowski 1988; 1990). The basic data source for topographic changes at the Unisław and Starogród castle sites was the archaeological studies, including the results of geodetic measurements. Topographical changes in the high castle sites identified in the archaeological studies were cross-referenced against historical maps. The original site topography of the castles was reconstructed by modifying the digital elevation model of the analysed area using the collected data, i.e. archaeological studies, historical maps and field observations (Molewski *et al.* 2018).

The archaeological research included both extensive excavation and prospection; moreover, geological drillings were made, especially when investigating poorly accessible areas. Extensive excavation was minimised by using the non-invasive test results to identify dig sites. In this way, the layout and spatial form of the castle in Unisław was investigated. Non-invasive test results were similarly used for identifying sites for survey excavations at the original site of Chełmno. With the high castle at Starogród, the situation was slightly different. The damage caused to the site by archaeological excavations in the 1960s limited and in many places hampered diagnosis by non-invasive methods. In identifying sites to excavate, we were thus guided not only by non-invasive study results, but also by 17th- and 18th-century inspection lustration records relating to the castle, as well as other written and iconographic sources. In the case of castles in Lipienek and Bierzgłowo, the only areas suitable for excavation works were the former castle parchams, i.e. spaces currently free of buildings and located between the castle moat wall and the castles' outer curtain walls. In both cases, the extensive excavations were used only to verify the existence of older earth-and-timber fortifications beneath

[3] The magnetic measurements were taken using a Geometrics 858-G caesium magnetometer with two probes configured 1 m apart horizontally. The device recorded changes in magnetic total field intensity, allowing anomalies to be distinguished that might indicate the presence of archaeological objects (Breiner 1999, p. 8–9). The electrical resistivity surveying was carried out taking profiles in a 1-m grid, usually linked to the geodetic grid established for magnetic surveying. The parallel dipole system that was used allowed changes to be recorded in apparent resistance at various current penetration depths (Loke *et al.* 2015). In addition, electrical resistivity probes were performed, primarily aimed at identifying the geological structure and determining the depth of structures causing anomalies (Misiewicz *et al*. 2020; Wiewióra *et al.* 2020).

the brick buildings. The layout and the shape of the buildings were identified by means of survey excavations and architectural research (Bierzgłowski Castle), if the state of preservation of the building permitted. At the same time, for sites where complete or partial masonry material was preserved, detailed architectural studies were carried out to verify the existing hypotheses on construction and architectural transformations, and to try to look anew at the construction history based on now accessible (but previously unseen) architectural features (footings, foundations, foundation negatives, construction layers, etc.). Such research was carried out on the Bierzgłowski castle, and at Papowo Biskupie and Lipienek (Figs. 2, 3). The architectural research on the castles in Starogród and Unisław, i.e. buildings currently not preserved on the surface, was of a completely different nature. As the archaeological research has shown, they were almost completely dismantled, including the footings (Starogród). In these cases, the archaeological research was of primary importance. In order to accurately reconstruct the layouts and shapes of both castles, the research results from archaeological sondages and the observations of the terrain were key: in the analysis of the high castle in Starogród these reconstructions turned out to be only rudimentary. They revealed the scale of the damage done first during the demolition of the castle, which was ongoing from the end of the 18th century and probably ended in the early 20th century, and then by archaeological research in 1963–1964 that destroyed the stratigraphic system of preserved settlement layers that would have been essential to any reconstruction of the lines of the outer curtain wall and partition walls within the building, along with clear negatives of the demolition walls. The negatives of demolished walls were also largely destroyed during the excavation works of the 1960s. The research was different at the castle in Unisław, which since the end of the Thirteen Years' War in the 15th century and the demolition probably in the 16th and 18th centuries, had not been the subject of any scientific studies. The non-invasive and archaeological research revealed the relics of the walls of a castle house preserved in places. Analysis of the architectural remains and the stratigraphy of the settlement and construction layers made it possible to reconstruct the entire settlement complex in Unisław.

Lost castles and a lost city: Starogród, Unisław, Chełmno

The castle in Starogród is considered to be one of the oldest built by the Teutonic Knights (Fig. 4). The wooden fortifications of this stronghold were erected by troops commanded by Hermann von Balk, who in 1232 began a crusade against pagan Prussia. It was then, after Toruń, the second military centre to be erected at the upper edge of the Vistula river valley's right bank (Dygo 2008, pp. 64–65). In Starogród, one of the first commandries of Chełmno Land was established, and until 1253, the seat of the Provincial Master was located here. Starogród was

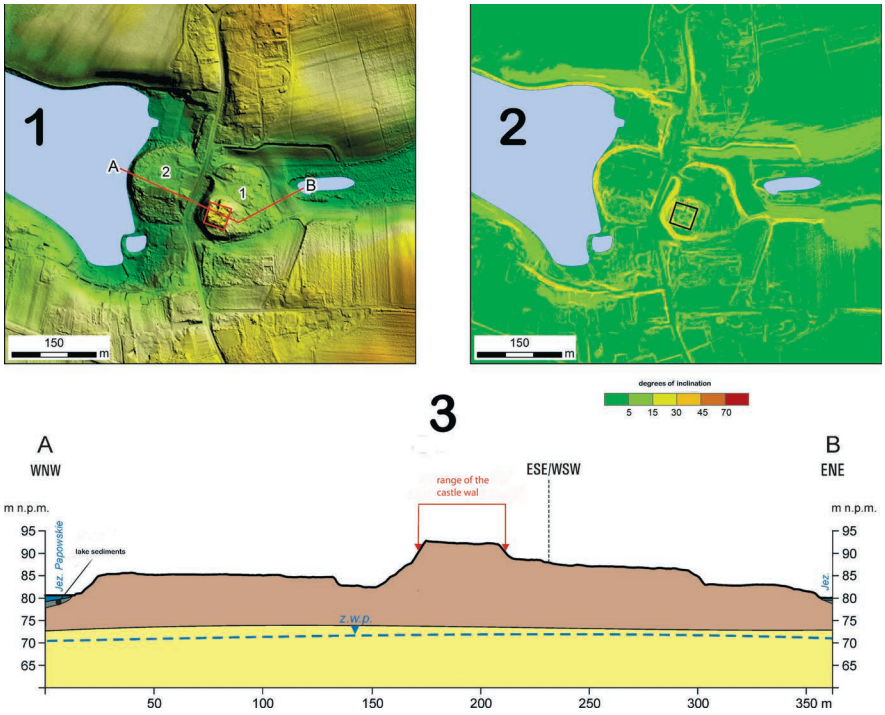

Fig. 2. Papowo Biskupie. C – hypsometry of the castle area: AB – line of geological section from part E of figure, polygonal shape – high castle walls range, 1 and 2 – bailey; 2 – slopes; 3 – model of geological structure of the castle location (z.w.p. – groundwater level). Edited by P. Molewski

considered the oldest site of the city of Chełmno. In all studies on the history of Prussian urbanisation, great significance is accorded to the charter document issued by Grand Master Hermann von Salz and Provincial Master Hermann Balk, which determined the legal and political framework for the two oldest and largest cities granted charters in Chełmno Land – Chełmno and Toruń. It was drawn up based on Western European examples, especially Magdeburg and Flemish laws (Chudziak, Bojarski 2015, p. 83). According to historical sources (*Piotr z Dusburga* 2004), the city survived for several dozen years, but after being put to the fire by the Duke of Pomerania, Świętopełk, in 1244 it was abandoned and translocated.

In the middle of the 13th century, in place of the earlier Teutonic earth-and-timber stronghold, work began on the construction of a stone castle that was repeatedly rebuilt or expanded. After the 13-year war, in the latter half of the 15th century, it became the residence of the Chełmno bishops until its demolition, which began at the end of the 17th century. To the north-east of the high castle there were two baileys separated by moats. To the east of the castle is the area where the medieval city was located. Its extent is determined by the preserved remains of a dry moat

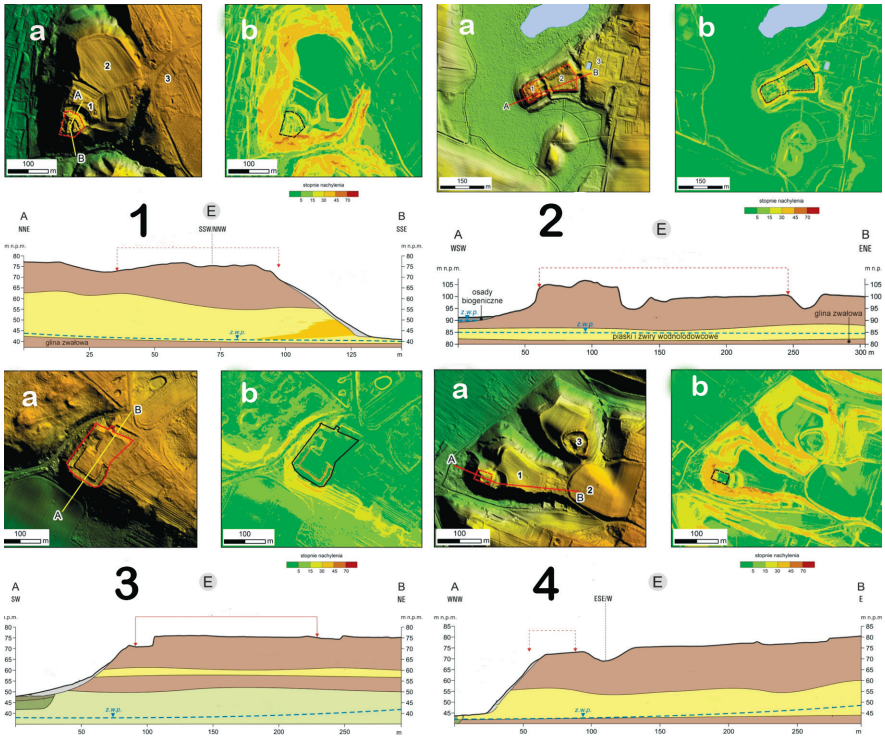

Fig. 3. 1 – Starogród: a – hypsometry of the castle and its ground: AB – line of geological section from part E, 1, 2 – bailey, 3 – city (Stare Chełmno); b – model of geological structure of the castle location ground. 2 – Lipienek: a – hipsometry of the castle and surrounding area: AB – line of stratigraphic section from part E, 1 – high castle, 2, 3 – baileys; b – model of geological structure of the castle location area. 3 – Bierzgłowo Castle: a – hipsometry of the castle area: AB – line of geological section from part E; b – model of geological structure of the stronghold location. 4 – Unisław: a – hipsometry of the castle grounds: AB – line of geological section from part E, 1 and 2 – bailey, 3 – hillfort from 10/11th century; b – model of geological structure of the castle ground (z.w.p. – groundwater level) (edited by P. Molewski)

of 16–18 m wide and 2–3 m deep. Within the former city limits, there is today a large part of a modern village.

Practically until 2017, the castle in Unisław was unrecognised, in terms of both its layout and the exact chronology of its construction (Fig. 4). Although problems relating to its history had featured in scientific discussions, the location of the site it was built on remained unclear. Early 20th-century maps clearly indicated an area on the outskirts of the village's built-up area on the moraine upland, at the upper edge of the slope down to the Vistula valley. This castle was created in connection with changes that took place in the Teutonic state in the late 1270s and early

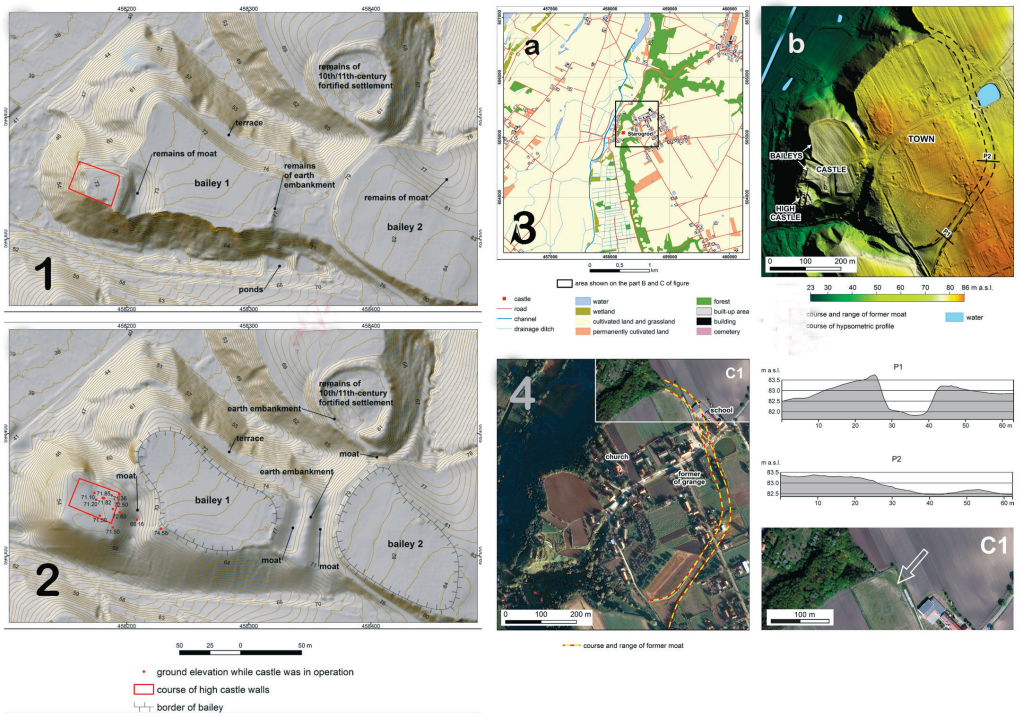

Fig. 4. 1 – Unisław. Attempt of reconstruction of relief in the location of the castle in Unisław: altitude model of present surface. 2 – altitude model of reconstructed surface (after Molewski *et al.* 2018). 3 – Starogród. Study area location and characteristics: a – general geographic map of Starogród and vicinity: b – hypsometric model 3D of castle grounds and former city (data source: Head Office of Geodesy and Cartography). 4 – orthophotomap of castle grounds and former city (source: Head Office of Geodesy and Cartography; C1 – signs of vegetation on the school playing field reveal the course of the moat (edited by P. Molewski)

1280s, when the Teutonic Knights managed to complete their defeat of the pagan Prussians (Jóźwiak 1997). The oldest mention of the Unisław commandry appears in a document issued on May 31, 1285 (Jóżwiak, Trupinda 2020, pp. 147–148). The commandry in Unisław was established no earlier than 1279 (Jóźwiak 1997). Previous treatments of the history of the castle not only discussed the dates that the commandry was established and built, but also speculated on the form of the oldest building (Guerquin 1984).

The research conducted at the high castle in Starogród led to the discovery of relics of a Teutonic earth-and-timber stronghold. During the research, traces of the Teutonic settlement from the 1230s were uncovered, although no relics of earth-and-timber fortifications were found. A detailed analysis of the recorded settlement features allowed two phases to be distinguished, relating to the construction and to the operation of the earth-and-timber stronghold. The older one was a foundation ditch. On its western side, a fragment of stone paving was uncovered. Between the stones, potsherds dating to the first half of the 13th century and fragments of fired bricks were discovered. Layers associated with the oldest Teutonic settlement were also found at the bottom of the castle moat. The conducted research also allowed, for the first time in history, the reconstruction of the spatial layout of the brick castle, the function of the rooms and, hence, a virtual reconstruction of the building, whose irregular layout was consistent with the typical processes by which defensive architecture developed in the latter 13th century (Wasik 2020a, pp. 50–64).

The results of research in the village (where geophysical anomalies had been detected) confirmed earlier hypotheses about relics of the original city of Chełmno existing in this area (Figs. 5, 6). Back-fill was discovered and the utility layer of a burnt building measuring 22 × 10 m. It was a wooden basemented building, set about 1.1 m down into undisturbed, natural clay. The large quantities of *polepa* (clay-based insulation used in horizontal construction elements in local construction techniques of the time) in the back-fill indicates that the building had a half-timber ground-floor storey (Fig. 7). Based on the archaeological material in the back-fill, it can be dated to the time of the city's foundation. The limited scope of the exploration, however, does not allow the form or function of this feature to be reconstructed. The most interesting discovery, however, was the remains of a basemented timber-frame building of about 6.3–6.8 m wide, running lengthwise south-west to north-east. Its length can only be determined approximately, at about 7.7–8.2 m. This rectangular building had an area of about 56 m^2. Its lower storey was recessed into the ground, to about 1 m below ground level. Ceramic material collected during excavations confirmed a chronology corresponding to the first siting of Chełmno. In the building, investigations reached the level of a burned floor on robust joists. Inside the house, apart from standard pottery, several pieces of glazed ceramics were also found, which in the 13th century were an evident

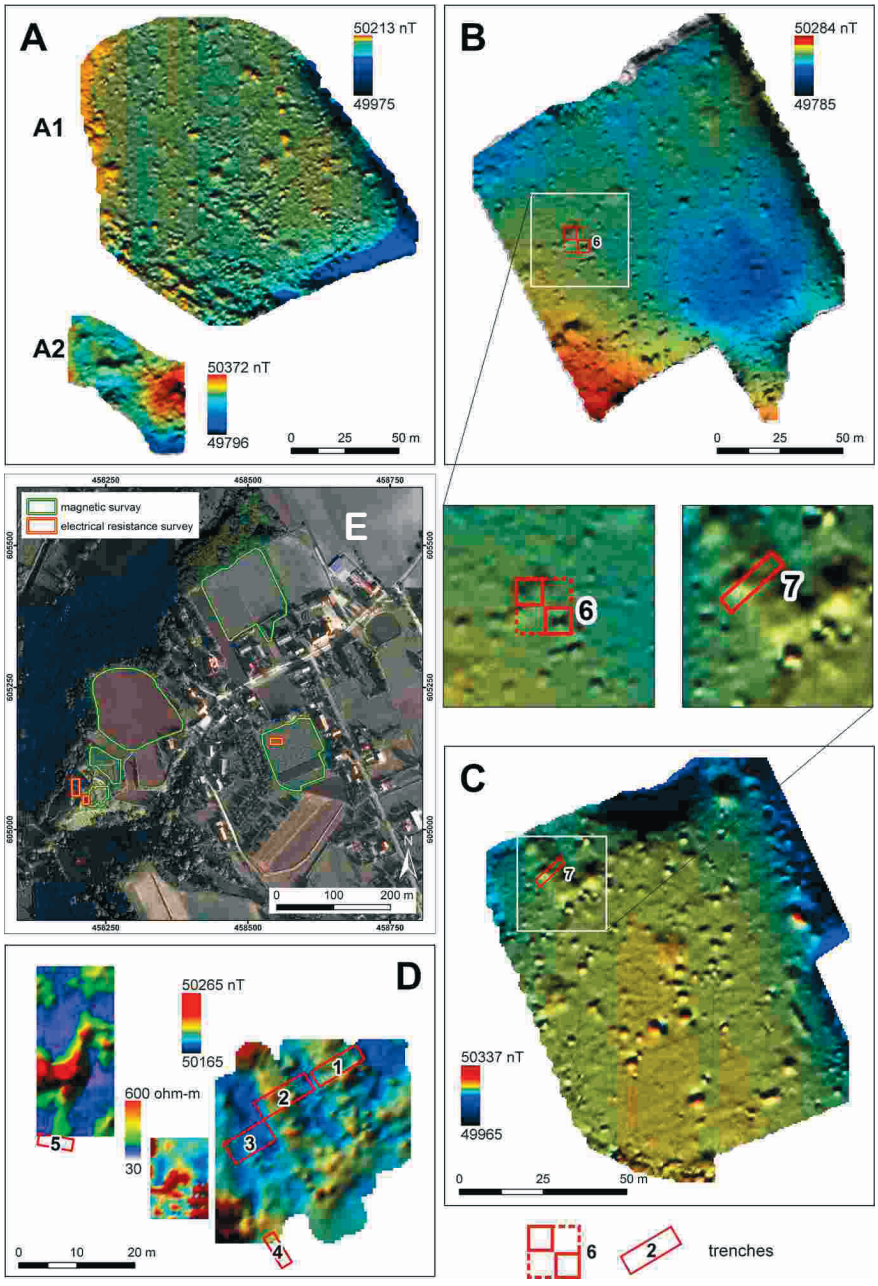

Fig. 5. Spatial extent of geophysical, magnetic and electrical resistivity studies on the grounds of the castle and former city at Starogród and maps of magnetic total field intensity and distribution of apparent ground resistance values. A – baileys, B and C – city, D – high castle (drawing by P. Molewski)

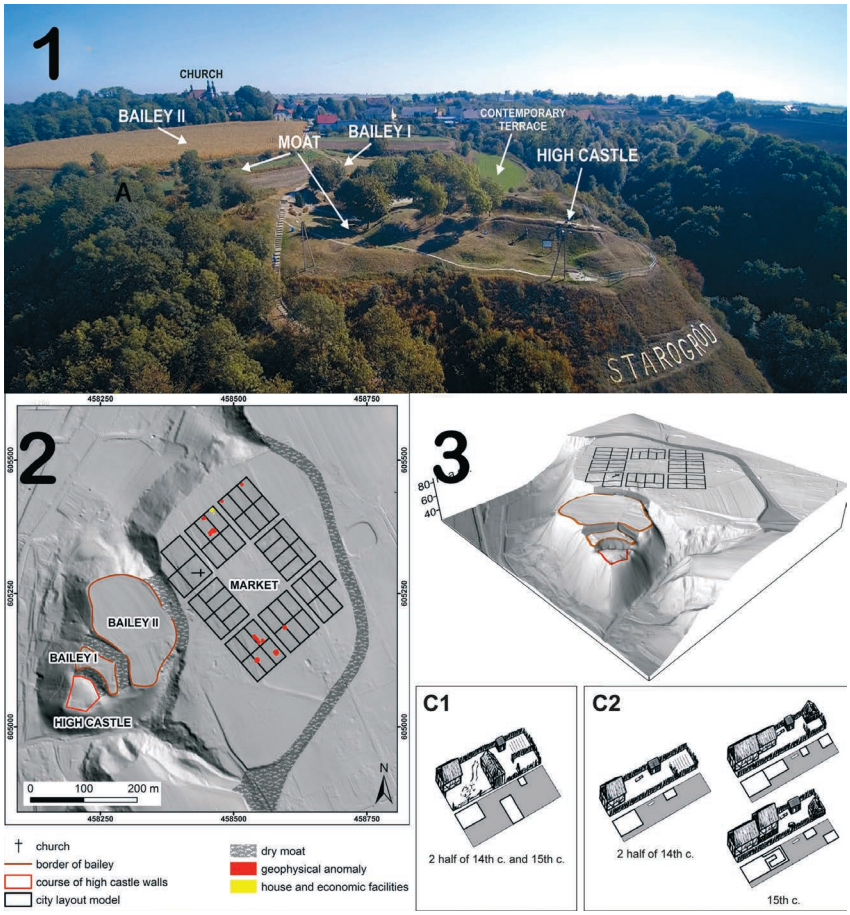

Fig. 6. Starogród – castle and city in the 1st half of the 14th century: 1 – panorama; 2 – model of the city (edited by P. Molewski). Example of layout of and changes in city plots in the 14th–15th centuries in Puck: 3 – 3D version of model; C1 – full-sized land parcel, C2 – half-sized land parcel (after Starski 2017; Wasik 2018)

sign of wealth and contact with German territories. Numerous metal objects were found in the back-fill: belt buckles, knives, bronze items and weights for a scales (Fig. 8). In the vicinity of the building, two utility buildings were also recorded that were probably cellars dug into the ground. In them were found, among other things, a spur and keys, and a fish hook and fishing trident (Kołyszko, Oleksy 2020). The analysis of the geophysical and archaeological research results leads us to conclude that the other similar anomalies in both of the geophysical survey areas are remnants of houses of similar construction.

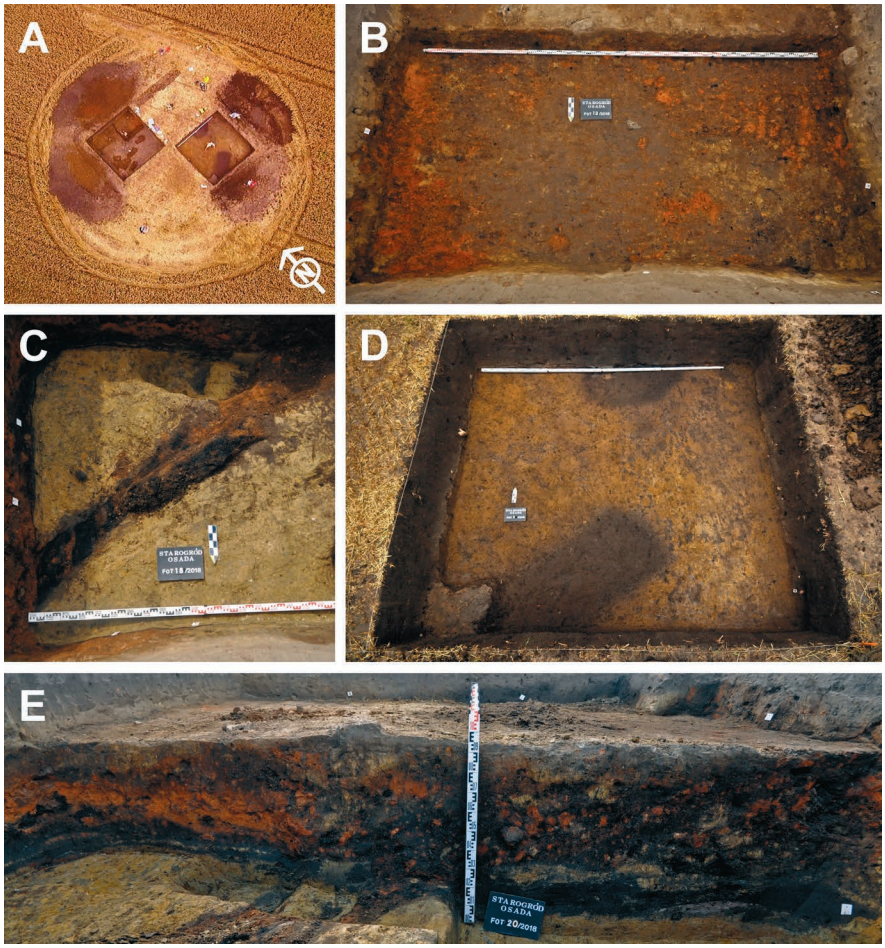

Fig. 7. Starogród, trench 6: A – bird's-eye view; B – projection of excavation bottom showing ceiling level of the destroyed residential building from the 1230s; C, E – fragments of charred wooden beams and charred material visible in the northern profile of the excavation; D – projection of the C quartile of the excavation showing ceiling layers of two farm buildings (photo by B. Wasik, M. Wiewióra)

In the case of Unisław, the oldest settlement layer turned out to be clayey black humus with potsherds (the so-called traditional pottery) dated to the 11th century, i.e. the time when the early medieval stronghold adjacent and to the north of the castle was in decline. The headland on which the masonry-wall castle was erected was briefly abandoned in the twelfth century, as determined by the studies revealing no traces of settlement from that period. Of greatest importance to deliberations on the oldest phases of Teutonic settlement were observations of relics of and

Fig. 8. Starogród – town. Metal objects excavated in the site of the oldest Chełmno town location: keys (a, b); nail (c); knives (e, f, m); perforator (g); weights (h–j); clasp (k); temple ring (l), hook (ł) (photo by M. Raciniewska)

earthen rampart reinforced on the inner side with a stone cladding. The rampart was constructed of thin layers of clay, sand and fired matter and also, importantly, fine brick debris. Iron slags, partially melted objects and unfinished crossbow bolts (semi-finished products) were associated with the youngest settlement level of the Teutonic earth-and-timber stronghold, and indicate that a metallurgical workshop and a small chamber from a hypocaust storage furnace. The final stage of this stronghold's operation is represented by what in Poland is known as 'grey ceramic' (pol. *ceramika siwa*), which is typical of settlements associated with colonists from Germany. Remains of a stone castle erected in the second quarter of the fourteenth century on the site of the older stronghold were discovered in all excavations. The proportions of the building plan indicate that it was a tower house (*Festes Haus*).

The studies showed that there was no cellar. Its walls are set on arcaded foundations, which are used on unstable substrates. To the north and east, the castle house was protected by a defensive wall, also constructed on arcaded foundations. The entirety was surrounded by a 6-m-wide earthen terrace to ensure the building's stability. The economic areas of the building were concentrated in the north-east corner, where the remains of a castle kitchen were discovered, i.e. a furnace and a pantry. The entrance to the castle led from the east over a bridge across a moat.

The oldest regular castles: Papowo Biskupie, Lipienek

One of the most interesting issues relating to the development of defensive architecture is the first regular castles. In Chełmno Land, the oldest such buildings are those in Papowo Biskupie and Lipienek.

The castle in Lipienek is located about 9 km east of the nearest commandry castle in Papowo Biskupie. According to historians, the high castle was built on an older defensive settlement, a former fortified settlement. The remains of the castle are situated on a clear peninsula projecting into a partially overgrown lake and surrounding wetlands (Guerquin 1984, p. 199). It was built in a turbulent period in Chełmno Land's history. During the Order's war with Pogesanians and Yotvingians (1275–1283), the Yotvingian chief, Skumand, launched a massive invasion of these areas in 1277, burning Lipienek, among other places (Haftka 1999, p. 158). The oldest mentions of the building are from 1275(?) and 1277. There was a Teutonic earth-and-timber defensive settlement here that was besieged by Skomand and conquered during the third uprising of the Prussian tribes (SRP 1861, p. 137; Guerquin 1984, p. 199; Pabian, Rozynkowski 1997, p. 65; Torbus 1998, p. 472; Antkowiak, Lamparski 1999, p. 58; Haftka 1999, p. 158; Kajzer *et al.* 2001, p. 274). In the rebuilt wooden(?) stronghold, in 1291, Provincial Master Meinhard of Ouerfurt issued a charter act for Grudziądz (Heise 1887, p. 80; Torbus 1998, p. 472). Probably before the end of the 13th century, the Teutonic Knights began building a brick complex, the seat of a mayor directly subordinate to the Grand Master in Malbork. A brick castle existed by the beginning of the 14th century; the oldest information about Teutonic officials comes from 1325, when the documents first mention a mayor of Lipienek (Jóźwiak, Trupinda 2020). In 1330, the stronghold was besieged by an army under the commanded of king Władysław Łokietek. The force under the Commander of Chełmno Land, Otto von Luterberg, managed to repel the attack, as a result of which the siege ended with the signing of a truce. At the time of the siege the castle was probably already completed, but it is not known when construction works began; it was after either 1285 or 1289, it also cannot be ruled out that it began only at the beginning of the fourteenth century. Before archaeological and architectural research began in 2017, no systematic

excavation research had been carried out directly within the area of the high castle. However, in 1992, in the bailey immediately to the east of the high castle ruins and in the courtyard three small surveys were conducted: two on a small plateau adjacent to an elevation cut off from the bailey by a deep east–west aligned moat, and a third in the eastern part of the courtyard, closer to the space once occupied by the castle's east wing. The basic issue seeking to be addressed was the confirmation of information about the existence of an early medieval stronghold under the castle, which was suggested by the potsherds found around the lake that were dated to the 10th–11th century and by the analysis of the distribution of remains of fortified settlements across Chełmno Land[4].

Papowo Biskupie is in the west of Chełmno Land, on a plateau stretching north to south, on a once important route connecting Chełmno, Chełmża, Kowalewo and Golub with Brodnica (Arszyński 1958). The complex was created on a slight elevation, separated by wide, shallow gorges. To its west there is a small lake (Sławiński 1959). The irregular elevation was surrounded by a moat supplied with water from a nearby water body. The castle proper was built here, and a large bailey in the remaining area. It is currently assumed that the high castle was built between 1290 and 1300 (Mroczko, Arszyński 1995, p. 181). However, it cannot be ruled out that it started as early as in the 1770s and ended even in the first quarter of the 14th century. In 1410, the stronghold was the commandry headquarters, and from 1454 the mayoral seat. Temporarily occupied in 1410 by the Polish army, in 1466 it finally found its way to the Crown after the Thirteen Years' War, along with all of Chełmno Land. In 1505, bishop Aleksander, as in the case of Starogród, gave the castle to the Chełmno bishops (Guerquin 1984, pp. 249–250). The oldest mention of the Papowo settlement comes from the Łowicki Privilege (the so-called *Lonyz* document) (*Ziemia chełmińska* 1961, pp. 5–8). According to this source, there was a fortified settlement and a parish subordinate to the bishop of Płock (Rozynkowski 2000, p. 60). The document concerns grants in Chełmno Land made by Konrad Mazowiecki, Duke of Masovia, and Gunter, the bishop of Płock, to bishop Christian (Rozynkowski 1995, p. 8; Baciński 2004, p. 20)[5]. The oldest information about the castle is from August 10, 1279, when, in Papowo while visiting Prussia, the Provincial Master (*proceptor*) Kondrad von Feuchtwagen confirmed on behalf of the Grand Master a donation from Arnold von Waldow (Rozynkowski 1995, p. 11; 2001, p. 339; Dorna 2004, pp. 259–260; Jóźwiak,

[4] Analysis showed that in Lipienek there may have been a fortified settlement complex in that period. It should occupy the place where, in the late 13th or early 14th century, the knights of the Teutonic Order established a brick castle. According to the author of the work, the Early medieval settlement layer can be dated to the 11th–12th centuries (Bojarski 1994, pp. 99–102, footnotes 1, 2).

[5] Papowo is named in document A, in the grammatical forms 'Papouo' and 'Papowo', in a papal bull confirming that these designations no longer exist (Rozynkowski 1995, p. 8).

Trupinda 2020). The castle was erected on virgin ground (e.g. Arszyński 1958; Momot *et al*. 2014, pp. 65–97). Until the archaeological research on the high castle began in 2005–2012, only once, in 1996, were archaeological works carried out at the southern wall of the eastern part of the castle's north wing; sadly, there is no documentation of these works. A turning point in the history of research on the stronghold came with a programme initiated by the Institute of Archeology of the Nicolaus Copernicus University in Toruń. Its primary objective was to investigate the nature of the strata in the castle and bailey, to attempt to reconstruct the history of the building, to verify the layout plan of the complex and to prepare a conservation programme for protecting the historical material undergoing constant degradation.

Archaeological research has shown that in Lipienek, under the ruins of the brick castle from the late 13th and early 14th century, there were remains of an earth-and-timber rampart. It has also been evidenced that the rampart was first built in the 11th century and rebuilt in the 13th. The radiocarbon dates of samples taken from the lower part of an exposed fragment of the rampart date the older phase of the fortifications to the 10th–11th centuries. Traces of early medieval settlement in this place were recorded as early as the 1990s, but only in the course of recent research was it confirmed that there had been an early medieval stronghold that was adapted by the Teutonic Knights. At the same time, it is the second known example (after Gdańsk) of a castle belonging to the younger, so-called regular group of brick strongholds erected from the late 13th century that, unlike other complexes of this type, was built on the site of former Slavic and Teutonic strongholds.

The castle in Papowo Biskupie, unlike the Lipienek stronghold, was not built on the site of an older building, but on an a specially prepared site (Momot *et al.* 2014, pp. 65–97). As part of the recently completed project, however, we were primarily interested in the posited second bailey, which was thought to have occupied a specially prepared *quasi*-peninsula that projected into the west side of the castle lake; this bailey would have run adjacent to the east bailey that lay to its east, from which it was separated by a road. Several surveys managed to confirm the economic importance of the bailey in the 14th and 15th centuries, where, among other things, grain was stored (Fig. 9). This was confirmed by archaeobotanical analyses of the remains of spikelets, cereals, and weed diasporas discovered within the second bailey in Papowo Biskupie. Rye was most likely stored as a food product for inhabitants or an ingredient of animal fodder (Maciejewska *et al*. pp. 221–223).

Irregular castles: Bierzgłowo

The research on the castle in Bierzgłówo had two objectives. The first was to confirm the historical sources as to the existence of an earth-and-timber stronghold

Fig. 9. Papowo Biskupie, borough. Obverse and reverse of the seal piston found in the borough (photo by M. Hlebionek)

preceding the construction of the brick castle. The second was to conduct an architectural analysis of the castle walls and their chronological stratification. While exploring the excavation on the parcham, remains of a gord-type settlement's rampart were exposed. A preliminary assessment of potsherds from this site showed this structure to be related to a Lusatian culture settlement. This was also confirmed by the numerous potsherds from that period discovered while exploring the younger layers related to the Teutonic settlement. However, detailed analysis of the ceramic materials revealed that, apart from Lusatian culture pottery, there are potsherds from the period of Roman influence and traditional pottery dating back to the 12th–13th centuries. The brick castle was erected on the sited of a settlement of the Lusatian and Przeworsk cultures and an earth-and-timber stronghold, a remnant of which is the discovered fragment of earthen rampart. This rampart, which was destroyed during the construction of the castle, was discovered below the layers lying between a wide foundation trench dug for the construction of the southern curtain wall of the high castle and a trench with rampart layers related to the construction of the parcham wall. The layers of the rampart sloped down north-westwards. There is no doubt that the builders of the brick castle had to take into account the existing rampart and moat and to adapt the layout of the high castle to it. The construction of the brick castle certainly led to the destruction of the upper layers of the earthen rampart. That time saw the destruction of the traces of the older, earth-and-timber stronghold whose construction can only be associated with the very earliest presence of the Teutonic knights (Wiewióra 2020a, pp. 22–24).

Chronological outline

A chronological analysis of the discovered settlement layers was one of the most important goals of the project, but so too was a chronological stratification of the preserved castle walls. The lack of a precise chronology, and especially

of the late medieval settlement layers, was something of an Achilles' heel in the archaeological research at the time. It resulted mainly, but not only, from the lack of unambiguous indicators separating the early medieval layers from the early Teutonic, or the late medieval from the early modern. The so-called traditional ceramics related to the Slavic settlement in the west of Chełmno Land was long-lasting and overlapped onto the early phases of the late Middle Ages, and this fact, combined with the homogeneous settlement layers very rarely recorded in previous studies made it very difficult to accurately separate the early, 13th-century phases of Teutonic settlement, but also the late, sixteenth-century settlement layers related to the so-called *starost* phase after the castles were taken over by the Polish Crown. There is another element that negatively influenced the chronology of the early phases of the late Middle Ages that also should not be forgotten. The lack of published research results or, as in the case of Starogród, the abandonment of the site while studies were ongoing and the lack of a resultant publication and summary combined to require that this chapter of history be revisited. For the first time, the sedimentary layers were comprehensively analysed, based on more than just the stratigraphic studies and analysis of the obtained sets of potsherds. A significant part of the research was the radiocarbon dating of carbon samples – bone fragments obtained from successive settlement layers – which, despite the obvious limitations, was an important addition to the studies on the beginnings of the Teutonic settlement, the commencement of construction works, and the successive stages of these works (Wiewióra 2020a, pp. 24–26).

The chronology of settlement layers associated with the Teutonic stronghold at Starogród was determined by detailed analysis of potsherds from undisturbed settlement layers. It is also confirmed by the dating of a coin minted in Toruń in the years 1236–1248 that was found in the ceiling of the layer associated with the oldest phase of the brick castle (Wiewióra 2020a, pp. 12–16). Samples obtained from these layers were also submitted for radiocarbon testing. The samples from excavation no. 3 yielded dates that fit well with the pattern of development of Teutonic settlement in this part of the Chełmno Land: 1182–1280 AD, 1156–1272 AD. In turn, the analysis of potsherds discovered during the studies of the chartered city, which date to the 1230s (the period of the oldest siting of Chełmno) was also confirmed by the radiocarbon dating of the building interior: 1155–1220 AD (Fig. 10).

The chronology of the Unisław stronghold was based first on an analysis of stylistically and technologically homogeneous sets of pottery fragments recorded in individual stratigraphic units. The oldest settlement phase was represented by fragments of so-called 'traditional' pottery recorded in both the cultural layer, dated to the 9th–11th century (Błędowski 2020, pp. 96–141). The most abundant group, however, was that of fragments of 'grey' pottery recorded in late medieval settlement layers, which can unambiguously be associated with the first Teutonic knights who appeared in this place in the 1280s. The youngest pottery fragments,

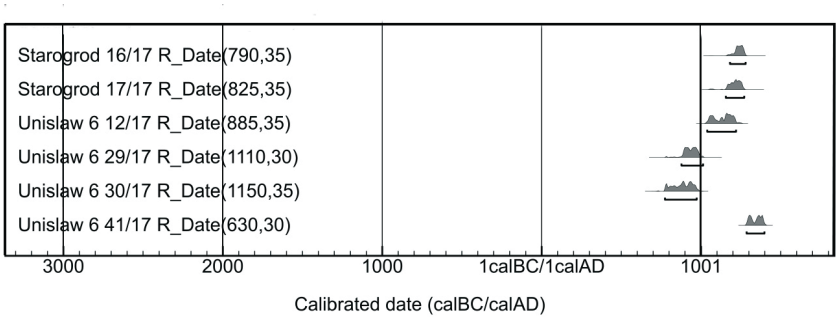

Fig. 10. Radiocarbon calibrated dates from Starogród (castle and Chełmno city) and Unisław castle (Poznań Radiocarbon Laboratory) (edited by M. Wiewióra)

from the mid-fifteenth century, came from layers associated with the destruction of the castle during the Thirteen Years War between the Teutonic Order and Poland (1454–1466). The earliest ^{14}C dates confirmed the preliminary chronology of the settlement layers. Two samples were from the rampart (879–1013AD and 775–973 AD) and one from the layer (1039–1220 AD). The youngest dates were 1287–1399 AD.

Lying beneath the 13th- and 14th-century layers, the remains of the earth-and-timber rampart in Lipienek turned out to be a two-phase structure built in the 11th century and rebuilt by the Teutonic Knights in the latter half of the 13th (Wiewióra 2020a, p. 18–22). Based on the radiocarbon analysis of a sample taken from the base of the rampart, its first phase can be dated 772–905 AD. The uncovered small fragment of this structure fits well with the development patterns of both Slavic settlement and the oldest Teutonic fortifications, which initially were adapted from early medieval fortified structures. There is also no doubt that there was a stronghold under the Bierzgłowo castle: based on the analysis of potsherds, the discovered fragment of the rampart can be dated to the late medieval period (Wiewióra 2020b, pp. 230–238). Radiocarbon analysis of the sample taken from the inside of the rampart dated it in a range from the mid-11th century to the early 13th: 1045 AD (38.5%), 1095 AD, 1120 AD (15.0%), 1142 AD, 1147 AD (14.6%), 1167 AD (95.4%), 1037AD (95.4%), 1207 AD.

Discussion

For many years there has been discussion on the pattern according to which the construction of Teutonic stronghold settlements developed. There have particularly been disputes regarding relationship between pre-Teutonic settlements (of both Slavs and Prussian tribes) and the construction of Teutonic brick strongholds (Poliński 2003; Dygo 2008). In recent years, the search for the oldest Teutonic cities whose location had not yet been confirmed also began. This applies to the first urban

centres of Chełmno and Stary Toruń. In all cases, the breakthrough in the search came with the widespread use of non-invasive research methods. While the search for the first siting of Toruń has been limited to non-invasive research, it was assumed from the very beginning that geophysical surveys in Starogród would be confirmed by archaeological methods (*W poszukiwaniu* 2015; Sprawozdanie 2018; Wiewióra 2018, pp. 95–98; Wroniecki 2018, pp. 99–102; Wasik 2020b, pp. 35–41; 2020c, pp. 239–247).

The obtained research results have confirmed that by the 1230s an earth-and-timber Teutonic stronghold had already been established at Starogród. It has also been confirmed that the first site of the city of Chełmno was the area to the east of the castle. The castle, together with the city, formed a single, connected settlement complex. To the north, the high slope of the Vistula valley formed a natural border to the city, while to the east and south it was surrounded by a dry moat that is partly visible on maps from the turn of the 20th century. Archaeological investigations at the sites of geophysical anomalies in the village of Starogród showed these anomalies to be residential buildings of the first city of Chełmno. Preliminary analyses of construction remains indicate that the discovered building corresponded in form to one of the most common types of building erected in the early stages of the founding of medieval cities in this part of Europe[6]. This technique was used in, among others, 13th-century houses in Stare Barczewo and Puck (Piekalski 2014, pp. 154–160; Biermann *et al.* 2016, p. 58; Blusiewicz 2017, pp. 94–104). Large amounts of *polepa* scorched by fire that were found in the interior of the basement indicate that the walls of the upper storey were probably completed in half-timber construction. The basement floor is made of boards on a levelling layer and on robust joist beams set in a levelling layer of clay. The lack of roof tiles or remains thereof indicates that roof of the house was wooden or thatched. The low numbers of fragments of characteristic gothic bricks (palcówka bricks) in the back-fill inside the building, and the absence of mortar, indicate that these may have been used for auxiliary functions, e.g. in constructing thresholds or fireplaces (Wasik 2020a, pp. 50–64; Wiewióra 2020b, pp. 230–238).

The studies of the castle in Unisław have shown that the first settlers appeared there in the early Middle Ages, probably during the construction of the nearby fortress. Analyses of the discovered potsherds indicate that the oldest settlement

[6] The dominant type of building was then a timber-frame house on a roughly square plan, with two storeys, the bottom of which was dug into the ground. This is how, for example, the oldest houses erected around Wrocław market square looked (Piekalski 2014, pp. 154–160). They had basements dug to roughly 1.5 m, with a residential ground storey and probably an attic store. The discovered building fits the standard model of a wooden urban building of the southern Baltic coast and Central Europe, but is noteworthy for its size, which is a little above average. In the period of interest to us, alongside pole construction, the timber frame structures were becoming increasingly popular in their more advanced form of the half-timber frame characteristic of the first half of the 13th century (Piekalski 1996, pp. 77, 81).

may already have been established in the 9th century and was inhabited until the end of the 11th century. It cannot be ruled out that the first rampart was built during this period. In the 1280s, the earthen rampart, rebuilt by the Teutonic knights, surrounded the commandry headquarters in Unisław, which was one of the youngest in this part of Prussia (Jóźwiak 1997). Despite its late origins, this earth-and-timber building never underwent the transformation to a masonry-wall commandry castle that, until now, was considered a typical feature of how Teutonic architecture developed. However, the analysis of the rampart interior showed that during this period fired brick was already being used to build the building interior. This is attested by the brick shards found in the layers in the core of the rampart. In the second quarter of the 14th century, the commandry was closed and replaced with a procurator's office (Jóźwiak 1997). At that time, work began on a brick construction at the site of the wooden stronghold. In Unisław, only the main part of the castle was constructed in masonry. It is the only building of its type in Chełmno land. Most similar tower castles were built in Prussian territories that were colonised later – during the 14th century (Wasik 2020d, pp. 42–49). The dimensions and layout indicate that it was not a tower, but a 'tower house' of the *Festes Haus* or *Hohen Haus* type. Buildings of this type in Central Europe were larger, thick-walled, three-or-four storeys tall and with an entrance above the ground level (Lasek 2013). Geophysical, architectural and archaeobotanical analyses carried out in Unisław allowed to locate, among others the castle kitchen, which was located in the north-eastern corner of the stronghold, and a metallurgical workshop. However, little is known about the nature of the remaining residential buildings.

The discoveries made in Lipienek and Bierzgłowo confirmed the hypotheses about earth-and-timber strongholds built by both the Slavs and the Teutonic Knights – that brick castles were built in the latter 13th century and in the early 14th century. There is little that can be said about the oldest, Teutonic phase of the earth-and-timber stronghold in Lipienek. Lying beneath the 13th- and 14th-century layers, the remains of the earth-and-timber rampart turned out to be a two-phase structure built in the 11th century and rebuilt by the Teutonic Knights in the latter half of the 13th century. The uncovered small fragment of this structure fits well with the development patterns of both Slavic settlement and the oldest Teutonic fortifications, which initially were adapted from early medieval fortified structures. The discoveries made in the parcham of the castle in Bierzgłowo indicate that it is most likely a fragment of earth-and-timber fortifications erected by the Teutonic knights in the first half of the 13th century.

The confirmation of the existence of the second bailey in Papowo Biskupie adds to our knowledge about this interesting building. The settlement layers uncovered in the bailey were related to the period preceding the Teutonic Knights' arrival in the area (being undoubtedly the remains of the Papowo settlement mentioned in the 13th-century sources), as well as containing a clear late-medieval layer with

a large amount of plant remains confirming the economic nature of the second outer bailey. A seal from the late 15th to early 16th century found in the layer provides further evidence of the economic nature of the bailey and its intensive use, including after Teutonic property was assumed by Polish starosts after the Second Peace of Toruń. After the Thirteen Years' War, Royal Prussia was occupied by mercenary knights, not only of Polish origin. In the early 16th century, Papowo was in the hands of representatives of the Toruń patricianship, Bartłomiej Trost and Franciszek Esken, i.e. the bourgeois elite. In 1505 it became the property of the Chełmno bishops. The coat of arms and the owner of the seal have not yet been identified, but we know that the castle in Papowo consisted not of one bailey, but two (Hlebionek 2020).

Summary

One of the key outcomes of the latest non-invasive and archaeological research carried out on the several Teutonic strongholds is that the hypothesis of a two-way pattern of development of Teutonic defensive architecture has been confirmed (Wasik 2016a; Wasik, Wiewióra 2016). The oldest group of irregular masonry-wall castles that were gradually extended around one castle building were – virtually without exception – constructed in places where there had been prehistoric or early medieval castles (Wasik 2016a; Wiewióra 2016, p. 195–231). In these places, the Teutonic Knights first built small earth-and-timber strongholds. In the 1230s, they used old Slavic fortified settlements that had been abandoned a century earlier (*quondam castra*) (Wiewióra 2016, pp. 195–231). A model of such an adaptation and transformation has been observed in, among other places, Toruń and Grudziądz (Chudziak, Kurzyńska 2012). Besides that group, a group of early Teutonic strongholds, called 'transitional type castles' or 'colonising castles' has also been identified that were built with no association with earlier defensive buildings (Kola 1991; Kajzer 1993). Nonetheless, a detailed discussion on the construction of the oldest Teutonic strongholds today remains impossible. The fortifications identified in the excavations have been investigated to only a limited extent. There are also headquarters known from historical sources that, despite archaeological studies, have so far failed to be located, but they were without doubt not located by brick castles (e.g. Kowalewo Pomorskie, Radzyń Chełmiński) (Wasik, Wiewióra 2016, pp. 53–65).

Based on the discoveries made so far, it is also possible to propose a hypothetical reconstruction of the buildings of the first chartered city of Chełmno. Regular anomalies registered in the north of the site are so clear that it was possible to determine the size of individual parcels or lots. Under Chełmno law, the Wrocław system of measurements was in force in the area (Jasiński 1993, p. 99). Thus, plot widths in the first Chełmno can be determined as five rods (75 feet) (Wasik 2020b, pp. 35–41; 2020c, p. 239–247; see also Wiewióra *et al.* 2020, pp. 135–152). Historical

analyses indicate that the first inhabitants of the oldest city of Chełmno were German immigrants who came from, among others, Halle and Magdeburg, but also from Wrocław thanks to the support the duke Henry the Bearded gave the Teutonic Order to colonise these areas. The date of the first settlers leaving Chelmno is uncertain. It is known that in 1244 it was put to the fire by a Pomeranian duke. A layer of charred material discovered during the research indicates that after this event the city was not rebuilt and this should explain the first, though not the last, decision to translocate the city, first to Chełmno's present-day suburb, Rybaki, and in the mid-13th century to the current location, similarly to Starogród, at a high edge of the Vistula valley slope.

The research results from Bierzgłowo, Lipienek and Unisław bring new information to the discussion on the history of castles and the presence of Teutonic Knights in the Polish–Prussian borderland (Wiewióra *et al.* 2020, pp. 135–152). Little is still known about what the first Teutonic strongholds looked like. They were not simply a continuation of the early medieval fortresses because they had other functions related to implementing colonisation and a new social system. These strongholds were protected by ramparts. Historical sources show that the earliest construction in wood of such places included, among others, chapels, kitchens and refectories. Towers were also built in these wooden castles. The defeats of the Teutonic Knights during the Prussian uprising of the 1240s showed the weakness of these strongholds, which were mostly conquered and destroyed. These events resulted in new masonry-wall strongholds beginning to be built. Initially irregular (trapezoidal, horseshoe), these small castles with single buildings do not deviate in form from the 12th- and 13th-century German and Teutonic feudal residences/headquarters from other areas in Germany and Czechia (Hermann 1986; Durdík 2000). There was a significant break in the history of the Teutonic Order in Prussia in the 1280s. The conquest of Chełmno Land ended. Stabilisation made it possible to extend settlement and consolidate the religious administration. The economy and infrastructure flourished, providing conditions that allowed brick construction to be developed (Arszyński 2010, pp. 7–45). During this period, a new model of the commandry castle was adopted in Prussia. This was the regular four-sided castle typical of 13th-century Europe and characteristic of countries with strong, centralised power (Durdík 1993; Skibiński 1994; Wasik 2016b, pp. 233–260). The latest archaeological research in this region (Wiewióra 2016) has shown that castles of this type were not usually erected in the place of earlier earth-and-timber strongholds. At the same time, the reconstruction of older irregular castles in line the new trends continued. They were given a two- or three-wing shape, in imitation of the rectangular castles (Wasik 2016a). From the 1320s or '30s onwards, new administrative units were created that were directly subordinate to the Grand Masters and supported the state's central finances (Jóźwiak 2001). The castles of these officials may have been in the form of a reduced regular castle (Herrmann 2007; Wasik 2016a), a residential tower or a tower house (*Festes Haus*).

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Abbreviations

AHP – Archaeologia Historica Polona, Toruń

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