



ADAM MICKIEWICZ
UNIVERSITY
POZNAŃ



Treasures of Time

Research of the Faculty of Archaeology
of Adam Mickiewicz University in Poznań



Location of the main research areas.
Numbering, compare the table of Contents.



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Miroslaw, Greater Poland Voivodeship, site 37. Part of the burial equipment.
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Treasures of Time: Research of the Faculty of Archaeology of Adam Mickiewicz University in Poznań

Introduction

In 2019, archaeology at the Adam Mickiewicz University in Poznan celebrated its honourable 100th anniversary! The establishment of archaeology at this university was associated with the strong influence of the authority of Prof. Józef Kostrzewski and a succession of eminent scholars, many of whom we today call Masters.

The year 2019 was a real breakthrough. We started the second century of existence within the Alma Mater Posnaniensis with a new structural independence and quality that the academic archaeology of Poznań had not yet known for its one hundred years of existence. This change, the formation of the first Polish Faculty of Archaeology, has opened new chances and possibilities of which we are now taking advantage.

6



Calibrated date
(calBC/calAD)



Prof. Józef Kostrzewski
(1885-1969)

7

Currently, the Faculty of Archaeology of Adam Mickiewicz University is formed by a number of teams, each with their own leaders. In the majority of cases, these teams are united by interdisciplinarity, which integrates within selected projects the experience of many so-called 'auxiliary' sciences of archaeology. This trend is paralleled by the development of specialised laboratories armed with the latest equipment in the Faculty of Archaeology.

This publication presents the current scientific interests creatively developed by such teams at the Faculty of Archaeology of Adam Mickiewicz University. The research of these teams covers vast areas in time and space, summing up at least the last 9,000 years of prehistory. The following articles, arranged in chronological order, allow us to explore the prehistory of various areas.

The adventure begins around 7100 BC, in the Neolithic settlement of Çatalhöyük located in Turkey. Then, we move on to the loess uplands near Krakow, where the first farmers from the south of Europe had just arrived (5500 BC). A little later (4000-3500 BC), and a little farther north, in the area of Greater Poland, some of the first megalithic constructions in this part of the world were built. Around the same time, about 800 km to the southeast, a settlement

of the Trypillia culture remains in the phase of development (3950 BC). The end of the Stone Age in Poland was described in the history of Late Neolithic communities on a hill in the center of Kujawy region (3700-2400 BC). Farther east, in the forest-steppe area of Ukraine, significant cultural and social changes resulted in the formation of the Yamnaya culture (3350-2250 BC), beginning the Bronze Age.

Intense elements of this era can be traced in the area of southern Europe in the Greek Anthemous Valley (3350-1150 BC), in Attica (3000-500 BC) on the plains of the Hungarian Lowlands (2600-1450 BC) and to the Upper Dniester Valley, where numerous burial mounds were formed (2800-1500 BC). A similar chronological range is presented in the articles devoted to a unique site in Bruszczewo, Greater Poland (2300-1350 BC), which not only accumulates valuable metal artefacts, but is also the subject of interest of an interdisciplinary team focused on reconstructing its environmental context.

The next text take us far to the east, to the area of Iraqi Kurdistan, where we can appreciate the importance of Mesopotamian influences in shaping the picture of the Early Bronze Age (2200-2150 BC).

Subsequent texts describe the discoveries of Poznań scientists in Syria (1906-1787 BC) and in Greater Poland (1900-1600 BC). These two distant points describe various aspects of life in contemporary communities in the Middle and Early Bronze Age.

The characteristic archaeological materials of the later centuries of the Bronze Age (1800-1200 BC) reveal an intensification of military conflicts and migration processes (1700-1200 BC). The turn of the eras is illustrated in this volume by texts on the interpretation of representations on ancient Greek and Roman sculpture (400 BC-100 AD), as well as the cultural situation in the Polish lands (400 BC-100 AD).

We are introduced to the new era by an article on the funerary customs of communities from the Polish lowlands describing discoveries at the site of Mirosław (160-175 AD). Moments of the formation of elements of Polish statehood are referred to in texts describing towns at Grzybowo (919-1050 AD) and Poznań in the early Middle Ages (950-1000 AD).

Later parts of the Middle Ages are described by sacral monuments located also in the area of the contemporary city of Poznań: the Collegiate Church of St Mary Magdalene (1263-1802 AD) and the still extant Church of the Blessed Virgin Mary on Ostrów Tumski, founded around 1431 AD in the immediate vicinity of the previously described early medieval site of the 'origin' of the city of Poznań.

The final texts of the volume do not refer directly to a particular period of prehistory, but present the history of Polish archaeological research on the Iberian Peninsula, the contemporary perception of prehistoric art by the inhabitants of present-day Canada and Siberia, and the development of methodological thought among Poznań archaeologists.

The volume closes with a text describing one of the many perspectives currently faced by the staff of the Faculty of Archaeology of Adam Mickiewicz University in Poznań: the new ArchaeoMicroLab.

We look to the future with great hope that the Staff of the Faculty will provide ideas for many more volumes of Treasures of Time. We trust that this set of articles will present archaeology at the Adam Mickiewicz University in Poznań in its new structure as a Faculty and show its potential. We would thus like to encourage you to get acquainted with our Poznań perspective on archaeological studies, and to reflect on ways of exploring the past.

Andrzej Michałowski

Danuta Żurkiewicz



Location of the main research areas.
Numbering, compare the table of Contents.

950-1000 AD

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Poznań in the early Middle Ages

Hanna Kóčka-Krenz, Olga Antowska-Gorączniak, Andrzej Sikorski

Abstract

The information contained in the oldest written sources reveals that Poznań was the seat of the Bishop of St. Peter's Church and emphasises the military strength of the stronghold during the reign of Bolesław the Brave (Chrobry). They do not, however, provide any data about the size, fortifications, or development of the area covered by the stronghold or about the processes that transformed its buildings. As the written sources seem laconic, archaeologists must rely on the results of their research to reconstruct a picture of how the stronghold functioned. They reveal that in the second half of the 10th century, the prince/duke possessed a stone palas in the stronghold of Poznań with a separate reception hall, chancellery office, and treasury, as well as a stone palace chapel used for private devotion. Adjacent to the palas was a wooden building that was a goldsmith's workshop – one of the specialized workshops that fulfilled the needs of the court. The nearby paved square was probably surrounded by other buildings serving as courtly workshops. The second section of the stronghold, adjacent to the east, contained in its centre the cathedral church and the buildings that belonged to wealthy people associated with the ruler who performed military and administrative functions on his behalf. The third (northern) segment of the complex was probably intended for economic purposes. On the other hand, the fortified site of Zagórze was inhabited by a group of people who performed service functions for the rest of the stronghold's inhabitants. There is no question, therefore, that Poznań was a mighty fortalice that guarded approaches to the interior of the state, a stronghold which had administrative, economic, and sacral functions that was the residence of the first Piasts and constituted the main point of support in the management of their domain.

Keywords: Poznań, early Middle Ages, palace and chapel complex, residence of the first Piast dynasty rulers

It was only at the beginning of the 11th century that references to the stronghold of Poznań, the history of which dates back to the 9th century, were first recorded. These were first found in Thietmar's Chronicle (*Thietmari Merseburgensis Episcopi Chronicon*). In 968, the chronicler pointed to Poznań as the seat of Jordan – the first bishop of the Piast-ruled state (Thietmar, II, 22, pp. 73-74). In the year 1000, he recorded information that the bishop of Poznań, Unger, was not subordinate to the archbishop Radim-Gaudentius (Thietmar, IV, 45, pp. 208-209). Another mention of Poznań made by that chronicler is related to the military expedition of Henry II in 1005, who, pursuing Bolesław the Brave, stopped at the request of his leaders (princes) two miles away from the stronghold (Thietmar, VI, 27, pp. 352-353). The last reference discusses the death of the Poznań bishop, Unger, in 1012, who had "led his flock" for thirty years (Thietmar, VI, 65, pp. 406-407). Gallus Anonymus, who wrote his chronicle a hundred years later, included two pieces of information related to the stronghold of Poznań. The first concerns the armoured knights of Bolesław the Brave: "since from Poznań [he had] 1,300 of heavy cavalry (*loricati*) and 4,000 shield-bearers, ..." (MPH, T. I, p. 404; Gall, I, 6, p. 27). The other reveals the effects of the raid of Bretislav, Duke of Bohemia, on Polish lands: "It was then that the Czechs destroyed Gniezno and Poznań and seized the body of Saint Adalbert (Polish: Św. Wojciech) [...]. And those towns remained abandoned for so long that in the church named after Saint Adalbert the Martyr and St. Peter the Apostle, wild animals made their lairs." (MPH, T. 1, p. 414; Gall, I, 19, p. 45).

The earliest written sources inform that Poznań was the place of residence of the bishop who had a cathedral church dedicated to St. Peter at his disposal and emphasize the military strength of the stronghold during the reign of Bolesław the Brave. However, no information is provided about the size, fortification, or development of the area covered by the fortifications or about renovations made to the buildings. To reconstruct a picture of how the stronghold functioned – in light of the laconic written sources – it is necessary to use the results of research undertaken in Ostrów Tumski in 1938 by archaeologists from the University of Poznań, that continued after the Second World War as part of the 'Millennium' research project, and that was subsequently conducted nearly annually as the research programme 'Mieszko' realised by the University of Adam Mickiewicz from 1999 to 2014 (Kóčka-Krenz, 2016). The results of these studies have verified the position of Poznań in the structure of the state of the first Piasts.

The stronghold of Poznań was built on the sands, gravels, and silts of the largest of several islands slightly elevated above the water level and located within the Warta River alluvium (Kaniecki, 2004). The location was not selected at random, as its natural qualities facilitated the settlers' defence against potential aggressors and enabled contacts with adjacent territories. Also, the river, being a relatively safe communication route, provided the most cost-effective way to transport various goods, while the ford on the Warta River marked the direction of land routes used in the times of the first Piasts (Kurnatowscy, 1996; Górecki, 1998). The elongated and oval-shape landscape and especially the ground elevations of Cathedral Island recorded

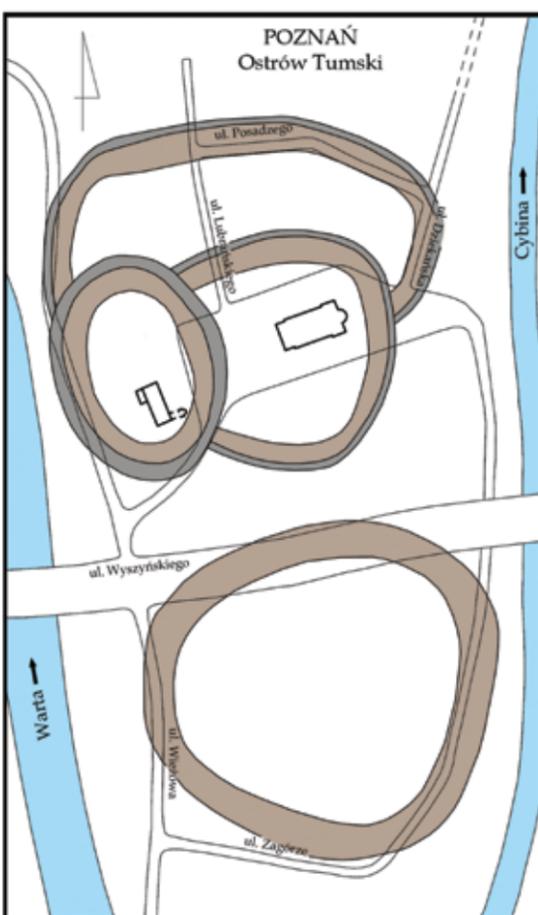
in the place of the modern church of the Blessed Virgin Mary (BVM), as well as in the area of the cathedral church and the elevation in Zagórze determined the initial settlement pattern of the stronghold.

When referring to the chronology and location of the first defensive fortifications, it should be emphasized that archaeologists do not have a unanimous opinion on this issue. The findings of archaeological research carried out in the last decade at the location of the church of the BVM, supported by dendrochronological analyses, indicate that the area of Ostrów Tumski became inhabited in the second half of the 9th century. At that time, a small stronghold was built on a hill in the western part of the northern half of the island. Its interior, about 40 m in diameter, was surrounded by wood-earth ramparts with a stone core, wherein the buildings were wooden houses. Fragments of pottery, the remains of cereals stores (i.e., millet, wheat, rye, and barley), spindle whorls, and animal bones recovered from this area indicate the typical settlement character of these structures.

The stronghold existed in this form until the mid-10th century, but soon afterwards it was systematically expanded until the end of that century. A two-part stronghold was established in the northern part of the island. The previous small stronghold was enlarged northwards to an area of c. 80 x 100 m and was intended for the royal court. Soon, the second part of the stronghold was attached to the east side and the complex was surrounded by a horseshoe-shaped rampart (Hensel & Żak, 1964) with dimensions estimated at 130 x 100 m (Kara, 1998). The new ramparts were also constructed of stone, timber, and earth, with the face reinforced by hooks and a wide berm on the outside. Also during that time, a defensive settlement was established in Zagórze, which was the third part of the castle surrounded by the ramparts running along the modern streets of Wieżowa and Zagórze. It is not clear, however, how the ramparts were terminated from the north, along the swampy ditch. Based on geological borehole data, an idea was put forward (Kara, 1998, p. 27; cf. also Kóčka-Krenz, Kara, & Makowiecki, 2004, p. 133) that the rampart was horseshoe-shaped and was completed with a palisade on the side of the ditch. It seems unlikely, however, that the settlement at Zagórze could have been so poorly defended in that section, since the other sections were surrounded by solid ramparts. A palisade enclosure would not have provided an effective defence and, moreover, it would have been easily destroyed when the water level was high due to floods or ice floe pressure. This question can only be resolved by further field investigation. At the end of the 10th century, the range of the stronghold was extended again by adding a new part to the northern side. Its massive ramparts, with a width of about 30 m, ran along what is now Fr. Ignacy Posadzy Street and the premises adjacent to its southern side (Wawrzyniak, 2005). Dendrochronological analyses of wood used for the construction of the defensive structures indicate that this activity took place in the 70s and 80s of the 10th century. However, at the present stage of research, it is not possible to identify the function of this part of the stronghold or to define the role of its southern section, strengthened at that time by an equally massive

rampart. These construction activities prove conclusively that Poznań was an important point of support for Mieszko I, because during his reign it was intensively expanded and reinforced, resulting in four separately defended parts (Figure 1). This mighty stronghold was connected with the vicinal Śródka (which was probably a trade site) by a wooden bridge across the narrow Cybina valley, which was built in the 970s and 980s (Pawlak, 2008) and connected the stronghold to the entire settlement base that was developing along the right-bank tributaries of the Warta River.

The feature that distinguishes 10th century Poznań from the main Piast centres of that time is its buildings, particularly the monumental architecture created in the northern part of the stronghold complex. The stone seat of the ruler was built in the royal part. It was a rectangular structure, built on N-S axis (Figure 2). Its longer walls were c. 27 m, while the shorter walls were nearly 12 m long. The thickness of the building's walls reached 1.3 m and they were



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Figure 1. Poznań – Ostrów Tumski. The range of the stronghold's ramparts at the end of the 10th century (Drawing by Olga Antowska-Gorączniak).

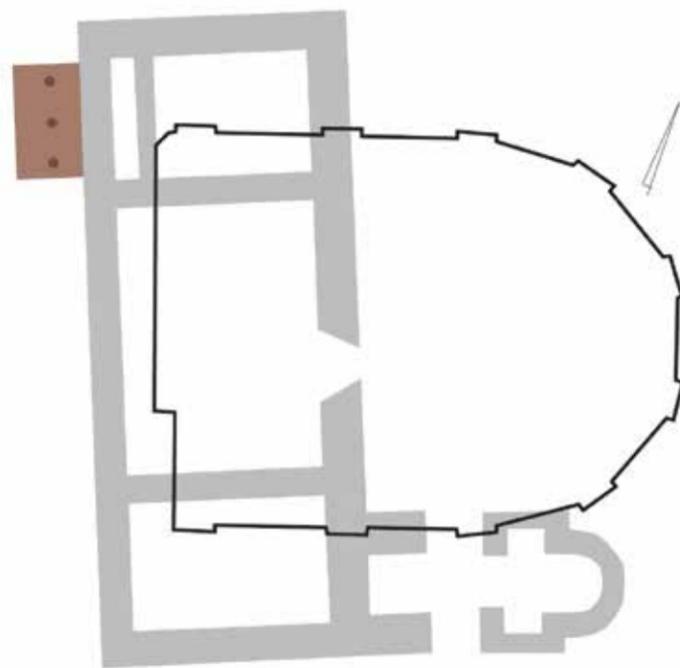


Figure 2. Poznań – Ostrów Tumski. An outline of the remains of the palace and church complex (Drawing by Olga Antowska-Gorączniak).

constructed of quarried stone slabs bonded with a thick layer of pure gypsum mortar. The uneven wall surfaces were then coated with gypsum plaster, both on the inside and outside. Also, the floors in the *palas* enclosures were made of gypsum mortar laid on a layer of crushed stone gravel. The entrance to the inner part was accessible through the annex at the southeastern corner of the palace, jutting out by 2.2 m in front of its body, with an entrance of the same width. Within the south wall was a flight of stairs leading to the first floor, which is evidenced by the bottom step slab that remained *in situ*. An additional, splayed entrance leading directly to the hall was created in the centre of the eastern wall of the building. The prince's *palas* was most probably c. 11 m tall, because this was the distance – measured from the foundations of the northern wall – at which its overturned remains rested.

At least four rooms were identified on the first floor of the building. They were arranged in the following way from the south to the north: the entrance annex was adjacent to the room (51 m²) that preceded the central, large representative reception hall (102 m²) while two other rooms were accessible through passages made in the next division wall. One was a narrow corridor only 90 cm wide but 5 m long (4.5 m²) – perhaps it was a small treasury. Adjacent to it from the east was the last room, which occupied an area of 34 m². Two stamps were discovered in it: a heavily used lead one – with a worn matrix – and a bronze one, belonging to a Dominican, Brother Jacob. Also, a lead bulla with the inscription “DVX BOLEZLAVS” was recorded (Dębska, Dębski, & Sikora, 2008). These finds indicate that the room housed the chancellery office in which documents were stored and issued, although its chronology is unknown. Based on the metric data, the usable area of each floor of the secular part of the residence can be estimated at about 190 m². The chambers on the ground floor were intended for administrative and representative purposes, while the first floor probably housed the ruler's private rooms. The wooden beam found within the threshold of the entrance was dated to the years after 941 (Krapiec, 2002), indicating that the stone residence in the stronghold of Poznań was constructed shortly after the middle of the 10th century; therefore, it is highly probable that it was the first monumental building in the state of the first Piasts. Its immediate surroundings were lined with a layer of fine gravel covered with gypsum mortar. A large area of floor surface hardened in such a way was recorded near the northeastern corner of the *palas*; perhaps it was a kind of *pavimentum* (i.e., the place where the prince exercised his rulership ‘under the open air’). The palace chapel was an integral part of the royal residence – its remains were found well preserved next to the southern wall of the presbyterium of the modern Gothic Church of the BVM (Kóčka-Krenz, 2017).

The chapel was built opposite to the entrance annex to the *palas*, whose axis was an extension of the axis of the chapel. The two structures were not connected in the foundation and were separated by a distance of 2 m. What draws attention, however, is that the same construction technique was used for these two buildings, as both foundations were laid in a narrow trench of the same width and depth, filled with natural rock material and covered with earth. On the same level, in both buildings, the foundation merged into walls of stone slabs bonded with gypsum mortar applied abundantly. The walls of the *palas* and the chapel were finished on both sides with gypsum plaster and their interior was paved with gypsum screed on a layer of crushed stone gravel. It seems clear, therefore, that both construction activities were performed simultaneously, and the *palas* was combined with the chapel into one complex only

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on the surface. Such a conclusion is prompted by a complete lack of foundations that would connect the ends of its northern and southern walls to the western part of the chapel. The above surface connection would have been in the form of arches spread between the upper parts of the walls and the entrance annex. Such a construction created both the exterior door frame and support for the gallery, accessible from the first floor of the *palas* (Figure 3).



Figure 3. Poznań – Ostrów Tumski. A reconstruction of the royal residence (a view from the north-east) (Drawing by Andrzej Gotembnik).

The palace chapel in Poznań is a hall church, terminated in the east in a deep apse with clear dimensions of 2.5 x 2.5 m. In the axis of the apse there was a sacrificial table standing by the wall. Its *stipes* was made of fine crushed rock gravel bonded with gypsum mortar. A detailed conservator's observation of the gypsum mortar surface on the western face of the original altar foundation indicates that it was finished with facing stones. The nave of the chapel was extended by 1 metre on both sides, with two shoulders merging into the foundation walls, and provided a space with a total width of 4.5 m and a length of 1.70 m. In the western part, the interior of the chapel narrowed to 2.5 m in width. The interior was lit by windows located in the walls terminating in the shoulders of the house of prayer at a height of about 0.5 m above the floor. Judging by the outline of the window in the overturned southern wall of the chapel, their openings were about 70 cm wide and 1.30 m high, with windowsills. The fact that the windows were set so low suggests that the chapel was lit by an upper row of windows and probably also by a window in the apse. The available finds allow for an inference about the interior finishes, too. The floor was made of gypsum screed on a layer of small natural

stones – it is preserved in large areas in the apse. The walls of the chapel were abundantly plastered with a thick layer of gypsum, on which a thin layer of patch-paint was applied before a painted decoration was added. Unfortunately, the narrative of the painting is illegible today because only small fragments of the painted plaster have preserved. Perhaps it was related to the dedication of the chapel, as (for example) a very expensive dye, lapis lazuli, was used for painting the robes in images of the Virgin Mary. Moreover, more than 230 glass mosaic tesserae and fragments of plaster with their imprints were recorded, including one fragment with a tessera piece still embedded within. Thus, there is no doubt that they formed a mosaic image or pattern which probably decorated the apse (Kóčka-Krenz, 2005a). These tesserae entered the ground after the decoration was destroyed, in a layer dated to the 11th century. Therefore, the mosaic must have been made before that time, probably on the initiative of Bolesław the Brave, who had the opportunity to commission several great master builders from Kiev. The interior furnishings of the chapel must have also included liturgical objects, which today are represented only by the preserved bony linings of a reliquary box. The finds of 2 gems – one made of glass and the other, carnelian with the image of a lion (late Roman, ancient), which in the early Middle Ages were used for inlaying reliquaries, crosses, chalices, or covers of liturgical books – indicate that the local clergymen had at their disposal products from highly specialised goldsmith workshops. According to P. Skubiszewski (2001, pp. 162, 164, 165), such cult objects came to the Piast-ruled state mainly from Germany as gifts or the royal foundations. Although those artefacts have not preserved to the present day, the information provided by Thietmar of Merseburg in his *Chronicle* as well as by Cosmas of Prague and Gallus Anonymus indicates that the local churches did not likely differ much in their furnishings from the churches of Western Europe (Skubiszewski, 2001, pp. 150-151).

The Poznań palace chapel was built on a traditional Latin cross plan, which highlights its symbolic dimension. Its architecture refers to the architecture of buildings represented by churches of the Carolingian and Ottonian traditions. Owing to its relatively small dimensions, the building was well adapted for the capacity and needs of the royal court and ensured the opportunity for them to fulfil their Christian duties (initially to just several people). The deep cut recorded in the interior of the nave of this church gives rise to the assumption that an important person was buried in the worthy location at the foot of the altar, but the burial was either plundered or (more likely) the remains of the deceased were exhumed and placed in a new tomb when the palace chapel was destroyed and was not rebuilt on the old foundations. Also, it seems quite possible that its founder, Princess Dobrava (deceased in 977), eventually rested in the chapel, which was noted in the 13th century *Chronica Polonorum* (MPH, T. III:622; Nowacki, 1959, p. 8, footnote 22), or perhaps it was the resting place of Bishop Jordan – deceased circa 984.

The palace chapel was probably the first, but not the only house of prayer in Poznań. Another sacral building, which was built before the cathedral church, was the building of the mission station of Jordan, the bishop for the Polish lands appointed in 968. Under the main nave of the modern cathedral church are the remains of this building, which include the bottom of a limestone bowl where mortar was poured onto a layer of gravel about 4 m in diameter, a posthole in the central part, and some fragments of the surrounding walls. These remains were recognized as a square building containing a baptistery, to which a small temple may

have been adjacent in the east (Józefowiczówna, 1963; Kurnatowska, 2002). The ascription of baptismal functions to the bowl sparked a heated debate which is still ongoing. The opponents of such a classification recognise that relic as a device for mixing large quantities of mortar during the construction of the cathedral. However, this is contradicted by iconographic evidence, which shows that small containers were used for this purpose, in which portions of mortar were prepared for instant use (*Ornamenta Ecclesiae*, 1985, pp. 172, 173).

Poznań owes the commencement of the construction of the cathedral church to Bishop Unger, as its erection dates to the last quarter of the 10th century (Kurnatowska, 2002, p. 109). It was erected on foundations made from large natural granite boulders bonded with lime mortar, on which walls made of stone slabs and covered with lime plaster were built. The floor was made of a hard, smooth limestone slab. According to K. Józefowiczówna (1963) it was a three-nave basilica 49 m in length, its nave being 8.5 m wide and the side aisles were 4.25 m wide. It had a square chancel that terminated in an apse and was flanked by two annexes, and it was separated by a rood screen from the nave section. It was closed by massive western towers with two turrets provided with staircases, which had a gallery slightly jutting out eastwards and supported by a circular pillar. The walls of the church were smooth, plastered, and devoid of any vertical divisions. The main nave was separated from the side naves by rows of arcaded pillars and all three naves were covered with a flat ceiling. The window openings and portals in the northern and southern walls of the building probably had elaborate frames (Józefowiczówna, 1963, pp. 37-98; Świechowski, 2000, p. 199). In its centre, there were two rectangular tombs, originally positioned above the level of the floor. The older one had a corbel vault and was built of limestone hardpan and gravel finished with dark green gabbro stone. The building material for the younger tomb was gravel finished with lime plaster. It had a wooden floor inside and a door opening. The tombs were probably enclosed, and between them was an altar, presumably of St. Cross, as this was usually placed in the centre of sanctuaries to create a mystical centre (cf. Oswald, 1969). Thus, a mausoleum, the resting place of Mieszko I and Bolesław the Brave (Kurnatowska, 1990, 2001, 2002, pp. 109-110; Jasiński, 2004, pp. 61, 83), was created in the Poznań Cathedral. The purport of the archaeological sources supports the interpretation of the late medieval tradition of the Poznań Cathedral as the burial place of the first rulers of the Piast dynasty.

In addition to the secular and sacral monumental architecture, the position of the Poznań stronghold is also evidenced by other, perhaps not so spectacular elements of its buildings, that were yet necessary for the proper functioning of the court. One such facility was a goldsmith's workshop located in a 12 m² wooden building directly adjacent to the western wall of the *palas*. Its interior yielded traces of a burnt work-bench, and within it were recovered fragments of crucibles containing drops of gold, golden rivets, numerous particles and strands of this metal, carnelian beads and those made from glass, three small garnet stones, and small particles of gilded wood (the body of a box?; Kóčka-Krenz, 2006). These findings indicate that the goldsmith working in the Poznań workshop was familiar with ornamental techniques requiring a high degree of skill – filigree, granulation, and paving – and the room itself was built in accordance with the recommendations of the priest and monk Theophilus, contained in the treatise *'On divers arts'* (Kobieliński, 1998, pp. 57-58). The workshop operated from the second

half of the 10th to the first half of the 11th centuries (dating based on stratigraphy and ceramic material analyses; cf. Kóčka-Krenz, 2006) and gold ornaments for the royal family and perhaps liturgical equipment were manufactured there. This also means that the Piast rulers employed highly specialised craftsmen at their court in Poznań.

Given the power of the fortifications, the size and multi-section structure of the Poznań castle, as well as the method of its development, it can be concluded that the stronghold was modelled after Carolingian-Ottonian residences, in German literature referred to as *'Pfalz'* (Gauert, 1965, p. 3). A *'Pfalz'* was a political and economic 'system' with a diverse structure, which depended on the rank of the place and the resulting frequency and duration of the ruler's stay together with all his secular and sacred entourage. The most extended visits must have been those connected with religious occasions, especially Christmas and Easter, formal gatherings of the state authorities, and those adapted to a spending longer time in residence (e.g., during the winter period). Such places required adequate housing to provide the ruler with all his necessities, especially since he was usually accompanied by a very large entourage of at least several hundred people (Binding, 1996, pp. 35-58). Therefore, within the fortified palatial complex, there were various more or less interconnected units. As the written sources inform (*Brevium Exempla* – Metz, 1966; Binding, 1996, p. 60), there was a masonry royal house with vestibules and chambers equipped with fireplaces, a wine cellar, loggias, a stone chapel, and in the courtyard, along with other wooden houses (also for guests), there were workshops, a working room for women with a chamber, a kitchen, a bakery, stables, barns, and a granary, and also an orchard, fish pond, and garden. Although the building arrangement of individual seats of power was subject to change during their use, all contained fixed parts intended for similar purposes. These included a building containing an assembly hall for court ceremonies, a residential section, a palace chapel and an economic section. The adjacent settlement grounds housed the buildings for the court service: craftsmen and merchants (Binding, 1996, p. 60 ff.). They were, for certain, equipped with all objects necessary to fulfil the everyday needs of the royal household, 'so that one did not have to ask for them when they were needed' (Metz, 1966).

In the second half of the 10th century, the prince possessed a stone *palas* in the Poznań stronghold with a separate reception hall, an office, and a treasury as well as a stone palace chapel for private devotion. A wooden building that was a goldsmith's workshop adjoined the *palas*, and was one of the specialized workshops manufacturing goods for the court. The nearby paved square was probably surrounded by buildings that served as royal workshops. Adjacent to the east, the second section of the stronghold housed the cathedral church in the centre and the buildings of elite people who were in favour with the ruler and performed military and administrative functions on his behalf. The third section of this complex, the northern segment, was probably intended for economic purposes. The defensive settlement in Zagórze was inhabited by a group of people whose function was to serve to the rest of its inhabitants (Kara, 1998). There is no doubt, therefore, that Poznań was a powerful fortalice that protected approaches to the interior of the state, served as the residence of the prince and his court, and was a stronghold with administrative, economic, and religious functions constituting the main point of support for the ruler (Figure 4). The cathedral of Poznań, used as the monarch's



Figure 4. Poznań – Ostrów Tumski. A reconstruction of the stronghold at the end of the 10th century (Material from the Poznań Archaeological Museum).

final resting place, played an important role in the system of assuming and exercising power (Meier, 1950). Religious rituals performed at the royal necropolis emphasized the continuity of the dynasty and the sacred character of its authority, as well as ensured prosperity for the state. According to Z. Dalewski (1996, pp. 38-39): “there is no doubt that Poznań played an important role in the structure of the Piast state which was comparable to that of Gniezno. It seems that, being a centre to a large extent created by the dynasty, Poznań marked a point around which the Piast tradition could be built and which, in the intention of the Piast rulers, was supposed to occupied an important place in the ideological and political structure that determined the durability of their power, defined by a combination of basic administrative and propaganda activities.”

Sources

Thietmar – Kronika Thietmara, translation and publishing by M. Z. Jedlicki, Poznań 1953.

Gall – Anonim tzw. Gall, Kronika Polska, translated by R. Grodecki, edited by M. Plezia,

Wrocław–Warszawa–Kraków 1965.

MPH – Monumenta Poloniae Historica (published by A. Bielowski), T. 1, Warszawa 1960.

References

Binding, G. (1996). *Deutsche Königspfalzen. Von Karl dem Grossen bis Friedrich II.* Darmstadt: Primus Verlag.

Dalewski, Z. (1996). *Władza, przestrzeń, ceremonia. Miejsce i uroczystość inauguracji władcy w Polsce średniowiecznej do końca XIV w.* Warszawa: Wydawnictwo Neriton.

Dębska, I., Dębski, A., & Sikora, M. (2008). Wczesnośredniowieczna pieczęć ołowiana odkryta na poznańskim Ostrowie Tumskim. In H. Kóčka-Krenz (Ed.), *Poznań we wczesnym średniowieczu. vol. VI* (pp. 99-110). Poznań: Wydawnictwo Poznańskie.

Gauert, A. (1965). Zur Struktur und Topographie der Königspfalzen. In H. Hermann (Ed.), *Deutsche Königspfalzen. Beiträge zu ihrer historischen und archäologischen Erforschung. Veröffentlichungen des Max-Planck-Instituts für Geschichte 11,2* (pp. 1-60). Göttingen: Vandenhoeck & Ruprecht.

Górecki, J. (1998). Ostrów Lednicki – rezydencja na wczesnopiastowskim szlaku od Poznania ku Gnieznu. In H. Kóčka-Krenz, & W. Łosiński (Eds.), *Kraje słowiańskie we wczesnym średniowieczu. Profanum i sacrum* (pp. 236-245). Poznań: Wydawnictwo Poznańskiego Towarzystwa Przyjaciół Nauk.

Hensel, W., & Żak, J. (1964). Poznań im frühen Mittelalter. *Archaeologia Polona*, 7, 258-276.

Jasiński, K. (2004). *Rodowód pierwszych Piastów.* Poznań: Wydawnictwo Poznańskiego Towarzystwa Przyjaciół Nauk.

Józefowiczówna, K. (1963). *Z badań nad architekturą przedromańską i romańską w Poznaniu.* Wrocław – Warszawa – Kraków: Zakład Narodowy im. Ossolińskich.

Kaniecki, A. (2004). *Poznań. Dzieje miasta wodą pisane.* Poznań: Poznańskiego Towarzystwa Przyjaciół Nauk.

Kara, M. (1998). Początki i rozwój wczesnośredniowiecznego ośrodka grodowego na Ostrowie Tumskim w Poznaniu. In T. Janiak, & D. Stryniak (Eds.), *Civitates principales. Wybrane ośrodki władzy w Polsce wczesnośredniowiecznej* (pp. 26-29). Gniezno: Muzeum Początków Państwa Polskiego w Gnieźnie.

Kara, M., & Kurnatowska, Z. (2000). Christliche Bestatungen. In A. Wieczorek, & H. M. Hinz (Eds.), *Europas Mitte um 1000. Handbuch zur Ausstellung. I* (pp. 527-530). Stuttgart: Konrad Theiss Verlag GmbH.

Kobieliński, S. (1998). *Teofil Prezbiter, Diversarum Artium Schedula. Średniowieczny zbiór przepisów o sztukach rozmaitych.* Tyniec – Kraków: Wydawnictwo Benedyktynów.

Kóčka-Krenz, H. (2005a). Kostki mozaikowe z Ostrowa Tumskiego w Poznaniu. *Archaeologia Historica Polona*, 15/2, 187-200.

Kóčka-Krenz, H. (2005b). Königsgräber in Dom zu Posen. In F.-R. Erkens (Ed.), *Das frühmittelalterliche Königtum. Ideelle und religiöse Grundlagen* (pp. 359-375). Berlin-New York: Walter de Gruyter.

Kóčka-Krenz, H. (2006). Pracownia złotnicza na poznańskim grodzie. In M. Dworaczyk, A.B. Kowalska, S. Moździoch, & M. Rębkowski (Eds.), *Świat Słowian wczesnego średniowiecza* (pp. 257-272). Szczecin–Wrocław: Wydawnictwo Instytutu Archeologii i Etnologii PAN.

Kóčka-Krenz, H. (2016). Badania milenijne w perspektywie archeologicznej. In M. Danielewski, H. Kóčka-Krenz, & M. Matla (Eds.), *Tradycje i nowoczesność – początki państwa polskiego na tle środkowoeuropejskim w badaniach interdyscyplinarnych* (pp. 163-168). Poznań: Wydawnictwo Naukowe UAM.

Kóčka-Krenz, H. (2017). Posen, vorromanische Kapelle der Fürstenresidenz. In Ch. Lübke, & M. Hardt (Eds.), *Handbuch zur Geschichte der Kunst in Ostmitteleuropa. I: 400-1000. Vom spätantiken Erbe zu den Anfängen der Romanik* (pp. 520-521). Berlin – München: Deutscher Kunstverlag.

Kóčka-Krenz, H., Kara, M., & Makowiecki, D. (2004). The beginnings, development and the character of the early Piast stronghold in Poznań. In P. Urbańczyk (Ed.), *Polish Lands at the turn of the first and the second millennia* (pp. 125-166). Warsaw: Institute of Archaeology and Ethnology, Polish Academy of Sciences.

- Krapiec, M. (2002). *Wynik analizy dendrochronologicznej i dendrologicznej prób drewna z badań archeologicznych prowadzonych na Ostrowie Tumskim w Poznaniu*. Kraków: Unpublished typescript stored in the AMU Faculty of Archaeology.
- Kurnatowska, Z. (1989). Archeologiczne świadectwa o najstarszych grobowcach w katedrze poznańskiej. *Roczniki Historyczne*, 55-56, 71-84.
- Kurnatowska, Z. (2001). Jeszcze raz o grobowcach poznańskich. In D. Zydorek (Ed.), *Scriptura custos memoriae* (pp. 503-510). Poznań: Instytut Historii UAM.
- Kurnatowska, Z. (2002). *Początki Polski*. Poznań: Wydawnictwo Poznańskiego Towarzystwa Przyjaciół Nauk.
- Kurnatowska, Z., & Kurnatowski, S. (1996). Znaczenie komunikacji wodnej dla społeczeństw pradziejowych i wczesnośredniowiecznych. In Z. Kurnatowska (Ed.), *Słowiańszczyzna w Europie średniowiecznej* (pp. 117-123). Wrocław: Instytut Archeologii i Etnologii Polskiej Akademii Nauk.
- Meier, J. (1950). *Ahnengrab und Rechtstein. Untersuchungen zur deutschen Volkskunde und Rechtsgeschichte*. Berlin: Akademie-Verlag.
- Metz, W. (1966). Die Königshöfe der Brevium Exempla. *Deutsches Archiv für Erforschung des Mittelalters*, 22, 598-617.
- Nowacki, J. (1959). *Dzieje archidiecezji poznańskiej. I: Kościół katedralny w Poznaniu*. Poznań: Księgarnia św. Wojciecha.
- Legner, A. (Ed.). (1985). *Ornamenta Ecclesiae: Kunst und Künstler der Romanik. Katalog zur Ausstellung des Schnütgen-Museums in der Josef-Haubrich-Kunsthalle*, Vol. 1. Köln: Greven & Bechtold GmbH.
- Oswald, F. (1969). In medio Ecclesiae. Die Deutung der literarischen Zeugnisse im Lichte archäologischer Funde. *Frühmittelalterliche Studien*, 3, 313-326.
- Pawlak, P. (2008). Relikty wczesnośredniowiecznej przeprawy mostowej na Cybinie w Poznaniu. In H. Kóčka-Krenz (Ed.), *Poznań we wczesnym średniowieczu. VI* (pp. 29-54). Poznań: Wydawnictwo Poznańskie.
- Skubiszewski, P. (2001). Katedra w Polsce około roku 1000. In S. Skibiński (Ed.), *Polska na przełomie I i II tysiąclecia* (pp. 139-196). Poznań: Wydawnictwo WiS.
- Świechowski, Z. (2000). *Architektura romańska w Polsce*. Warszawa: Wydawnictwo DiG.
- Wawrzyniak, P. (2005). Badania wykopaliskowe wczesnośredniowiecznych umocnień wałowych przy ul. ks. Ignacego Posadzego nr 5 na Ostrowie Tumskim w Poznaniu w latach 2001-2004. In H. Kóčka-Krenz (Ed.), *Poznań we wczesnym średniowieczu. V* (pp. 91-110). Poznań: Wydawnictwo Poznańskie.

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