

<sup>1</sup> Wrocław University of Science and Technology  
roland.mruczek@pwr.edu.pl  
ORCID ID: 0000-0003-1866-3147

<sup>2</sup> AZTLAN Tomasz Kastek  
tomasz@kastek.pl  
ORCID ID: 0000-0002-0222-6199

ROLAND MRUCZEK<sup>1</sup>, TOMASZ A. KASTEK<sup>2</sup>

**Defensive Wrocław. Part 1. Urban planning and *architectura militaris*  
until the end of the 13<sup>th</sup> century\***

*Abstract.* The article attempts at presenting the transformations of the defensive system of Wrocław from the time of the formation of the early medieval Wrocław agglomeration through the charter city, i.e. the “ducal” period, until the beginnings of the communal city. These transformations have been identified as a result of more recent archaeological and architectural research. The development of the defensive system of medieval Wrocław – one of the most powerful in this part of Europe – is presented against a background of the complex urban transformations and the city’s turbulent political history.

*Keywords:* Wrocław, ramparts, fortifications, urban planning, hillfort, castle, donjon, gate, fortified tower, flanking tower.

*Introduction*

Most likely, it would be no exaggeration to say that no other group of Wrocław monuments owes as much to archaeologists as *architectura militaris* (military architecture) does. Until recently, lovers of Wrocław's medieval and early modern fortifications had to settle for analyses of scenic plans of the city, which give only a rough idea of the power of the defence system of the Silesian capital in past centuries, though. Unfortunately, the impressive system of the ramparts and fortifications of Wrocław disappeared as a result of demolition works carried out by Napoleonic troops after 1807. Our knowledge of the defence system of Wrocław in the times of the Piast

---

\* We dedicate this study to our Master Professor Jerzy Rozpędowski (1929–2012).

This study has been carried out as part of the project of the National Program for the Development of Humanities – National Heritage NPRH/DN/SP/495215/2021/10-2 (2022) “Catalogue of castles and fortified manors of Silesia”.

Dynasty was particularly limited. It was only owing to the post-war research on Ostrów Tumski (Cathedral Island) and the Old Town that surprising discoveries were made, showing the enormity of investments confirming the unification, often royal aspirations of the rulers of Wrocław, which were undoubtedly valid throughout the 13<sup>th</sup> century. In the case of Wrocław, the establishment of the left-bank municipality that was based on western legal and spatial models had a multi-stage course and continued throughout the 13<sup>th</sup> century. We date three key stages of this process to the years ca. 1211–1232, 1241–1242, and 1261, respectively (Młynarska-Kaletynowa 1986; Kozaczewska-Golasz 1995; Rozpędowski 1995; 2011; Chorowska 2010a; Piekalski 2014). Despite the fact that the impressive defensive structures of the Piasts limited the ambitions and financial possibilities for Wrocław's burghers for a long time, fortunately, they were continued in the form of the next two defensive perimeters in a fortified tower and a roundel bastion system erected at great expense in the 14<sup>th</sup>–16<sup>th</sup> centuries, followed by extensive roundel bastion fortifications constructed from the end of the 16<sup>th</sup> century to the end of the 18<sup>th</sup> century. Demolished by the decision of Hieronymus Bonaparte, the ramparts and fortifications of Wrocław were the subject of interest among researchers for many decades. The research work was particularly intensified due to political changes in Poland that took place after 1989; the Wrocław investment boom contributed to the flourishing of urban archaeology (in the field of defensive architecture – Konczewski *et al.* 2010; Kastek, Mruczek 2016; Mruczek 2019a) that was no longer practised by academic environments exclusively. This paper seeks to present the results of more recent and often unpublished studies on the defence issues of early Wrocław from the mid-12<sup>th</sup> to the end of the 13<sup>th</sup> century (Figs. 1, 2).

### *State of research*

The research on Wrocław's defensive architecture has a relatively brief history. The modern research workshop and methodological bases for the studies of *militaris* Silesian architecture were developed by Kurt Bimler (1933; 1940) shortly before World War II, with many of his findings remaining relevant to this day, particularly with regard to Wrocław. However, it was not until the city had been rebuilt following the war-time destruction that systematic research and analysis of its fortifications had been undertaken. Józef Kaźmierczyk from the Department of Archaeology at the University of Wrocław was certainly the most distinguished researcher of early medieval Wrocław who worked primarily in Ostrów Tumski and the left-bank agglomeration and explored Silesian hillforts (Kaźmierczyk 1957; 1959a; 1959b; 1964; 1965; 1966a; 1966b; 1970; 1991; 1993; 1995; Kaźmierczyk, Lodowski 1963). However, investigating defensive architecture soon became the domain of scientists from the Faculty of Architecture at the Wrocław University of Science Technology,



Fig. 1. Wrocław, the Old Town and Wrocław castles against the background of the natural humus level, identified oxbow lakes of the Odra and Olawa rivers and the cadastral plan, until 1241. 1 – the castle on Ostrów Tumski (Cathedral Island); 2 – left-bank castle; 4 – earth ramparts: sandy-earth and fascine ramparts; 5a – brick bridgehead from the 13<sup>th</sup> century; 5b – negatives of wooden posts of the moat crossing; 6 – first 13<sup>th</sup>-century moat; 9 – the Odra River's oxbow lake; 10 – the Olawa River's oxbow lake; a – Market Square and Town Hall; b – Nowy Targ Square; c – New Town; d – Saint Adalbert Parish Church; e – Saint Mary Magdalene Church; f – Saint Elizabeth Church; g – Saint Barbara Church; h – Corpus Christi Church; I – city moat; k – Arsenal (after Badura, Kastek 2018; developed by T. A. Kastek)

their studies centred around Bohdan Guerquin (1957; 1974; 1984). Certainly, the most distinguished in this group was Jerzy Rozpędowski. Owing to his pioneering research we were able to learn about complex issues of Silesian and European military architecture, matters related to the patronage of Silesian Henrys, and, no less important for our considerations, early Silesian urban planning (Rozpędowski 1961; 1962; 1963; 1965; 1968a; 1968b; 1971; 1972; 1975; 1978a; 1978b; 1978c; 1989; 1995; 1999; 2007; 2011; *Architektura* 1995a; 1995b; 1997; 1998). The defensive and sacred architecture of Ostrów Tumski and the Wrocław Old Town was the subject of interest of Edmund Małachowicz (1972; 1973; 1974; 1975; 1978; 1981; 1985; 1988a; 1988b; 1991a; 1991b; 1992; 1993; 1994; 2005), Olgierd Czermer (1977), Czesław Lasota (Małachowicz, Lasota 1987; Lasota, Wiśniewski 1998), and Maciej Małachowicz (Żurek, Małachowicz 2011). Czesław Lasota significantly developed the methodology of research on the construction workshop and stratigraphic analyses, yielding a new approach to chronological stratification of buildings. Furthermore, he created his own school of architectural research and educated numerous students. Aimed



Fig. 2. Wrocław, the Old Town and Wrocław castles against the background of the natural humus level, identified oxbow lakes of the Odra and Olawa rivers and the cadastral plan, after 1241. 1 – the castle on Ostrów Tumski (Cathedral Island); 2 – left-bank castle; 3 – left-bank castle II (Arsenal); 4 – earth ramparts: sandy-earth and fascine ramparts; 5a – brick bridgehead from the 13<sup>th</sup> century; 5b – negatives of wooden posts of the moat crossing; 6 – first 13<sup>th</sup>-century moat; 7 – 13<sup>th</sup>-century defensive wall; 7a – system of outer baileys and zwingers of the 13<sup>th</sup>-century defensive wall; 8 – Internal moat "Czarna Olawa"; 9 – the Odra River's oxbow lake; 10 – the Olawa River's oxbow lake; a – Market Square and Town Hall; b – Nowy Targ Square; c – New Town; d – Saint Adalbert Parish Church; e – Saint Mary Magdalene Church; f – Saint Elizabeth Church; g – Saint Barbara Church; h – Corpus Christi Church; I – city moat; k – Arsenal (after Badura, Kastek 2018; developed by T.A. Kastek)

primarily at reconstructing space in the urban context, extensive field research required a completely new approach to preparing measurement documentation. In the early 1980s, Jacek Kościuk (1987) had already become a pioneer of modern methods of research and inventory of city ramparts and fortifications. The first attempt at presenting a comprehensive approach to the issue of Silesian *militaris* architecture was made by Mirosław Przyłęcki (1966; 1987; 1998). Breakthrough insights in the studies on the medieval town were made by Marta Młynarska-Kaletynowa in her considerations of early Wrocław (Młynarska-Kaletynowa 1986; 1992; 1997) and by Mateusz Goliński in his innovative studies on the topography of medieval Wrocław (Goliński 1986; 1997; 2001; 2003), where findings of archaeological research were applied on an immense scale for the first time. Małgorzata Chorowska (2003; 2010a; 2010b; 2014; 2015; 2017a; 2017b), Jerzy Piekalski (1991; 1999; 2002a; 2002b; 2004; 2005a; 2005b; 2010a; 2010b; 2014; Piekalski, Wachowski 2010), and Rafał Eysymontt

(2009; 2011) are the authors of the most recent syntheses on medieval towns and castles in Silesia. *Atlas architektury Wrocławia* (*Atlas of Wrocław architecture*) edited by Jan Harasimowicz) has largely contributed to the popularisation of the subject of the town defence (*Atlas architektury* 1997; 1998). In recent years, groundbreaking achievements of the Wrocław scientific circle include two publications, one of which is a volume of the *Atlas historyczny miast polskich* (*Historical atlas of Polish towns*) devoted to Wrocław, under Młynarska-Kaletynowa's substantive supervision, which takes into consideration the results of the latest archaeological and architectural research, edited by a large team of experts, including Cezary Buško, Małgorzata Chorowska, Rafał Eysymontt, Mateusz Goliński, Jerzy Piekalski, Agnieszka Zabłocka-Kos, Leszek Ziątkowski, and Adam Żurek (*Atlas historyczny* 2001; 2017). The other title, which should be received with great satisfaction, is *Leksykon architektury Wrocławia* (*Lexicon of Wrocław architecture*) (*Leksykon architektury* 2011). Recent years have brought a number of studies on the construction workshop and chronology of Wrocław *militaris* architecture based mainly on physical and chemical methods (Chorowska, Caban 2015; Chorowska *et al.* 2015; Mruczek *et al.* 2015a; 2015b; Mruczek 2019a).

*The castle complex on Ostrów Tumski and the alleged fortifications  
of the settlements of the early medieval Wrocław agglomeration*

Theoretical reconstructions of the defensive system

Early Wrocław was not the object of interest of German researchers, who mainly emphasised the analysis of city-forming processes after 1241 that were connected with the influx of colonists from German-speaking areas<sup>1</sup>. The research was certainly not facilitated by the high-density development of Ostrów Tumski. It was not until its destruction in 1945 that it contributed to the first excavations on the site of the former hillfort and on the premises of the Cathedral of Saint John the Baptist.

In the 1950s, Marian Morelowski (1954) tried to reconstruct the defence system of Wrocław's early urban agglomeration in the Piast era (in the contemporaneous sense of "pre-charter" and "pre-colonisation"). Though the reconstruction was intuitive in its nature and carried out without any extensive field research, the researcher identified three points of strategic importance for Wrocław, that is, Ostrów Tumski, the area of the present Main Building of the University of Wrocław, and the area of the City Arsenal. We now know that sometime later, three Wrocław

---

<sup>1</sup> The few studies addressing the potential earlier urban planning achievements include Theodor Goerlitz (1935, pp. 92–105), where the author dates the dispute between Henry the Bearded and the colonists in Wrocław to the years 1232–1241 and postulates a much earlier date for the city charter reform under Magdeburg Law.

castles were erected in these locations of substantial naturally defensive character. Is it likely that originally, as Morelowski hypothesised, there were three separate hillfort settlements there?

### Ostrów Tumski

Certainly, from the 10<sup>th</sup> century, the administrative centre of early medieval Wrocław and the entire Silesian province was an extensive defensive complex located on Ostrów Tumski that consisted of an “eastern” hillfort (the so-called Bohemian hillfort; ca. 940) and a “western” hillfort (the “Piaśt” hillfort; ca. 985) with a vast area outside the hillfort where the first church was built (Kaźmierczyk 1991; 1993; 1995; Pankiewicz 2015, pp. 13–31). However, this was only revealed by post-war research. Extensive ramparts were raised using the hook-and-grate structure (Fig. 3: a). They were created as part of ducal law (in Latin: *ius ducale*) services and were subject to repeated repairs and modernisation works, which has been archaeologically confirmed. The method of crowning these large-scale buildings is debatable. It is possible that apart from the breastwork which appears in most reconstructions, the adopted solutions could have included hoardings or even sheltered defensive porches. No traces of any possible defensive or residential buildings inside either of these superior sections of the hillfort are known to us. We do not know the answer to the question whether any of them still houses relics of the early Piaśt palatium, as is the case for Poznań, Giecz, Ostrów Lednicki, Przemyśl, Kraków, and Wiślica, for instance. The slow gradual disappearance of the hillfort settlement on Ostrów Tumski began at the turn of the 13<sup>th</sup> century and was related not only to the progressive disintegration of the castellan organisation but, above all, to enormous economic and legal changes that were taking place after the return of the Silesian Piaśts from exile. At that time, a ducal castle was built in the area of the western hillfort and on the left bank of the Oder – as a result of the granting of the charter to the former Wrocław agglomeration – thus, a vast municipality was established.

### The beginnings of the early urban agglomeration and its fortifications

In the case of Wrocław, the existence of a hillfort and a convenient Oder crossing was certainly a major factor that contributed to the formation of the city. However, the primacy of this centre in the region was due to two major trade routes that intersected there, that is, a west-east route that ran from the Rhineland to the Kingdom of Ruthenia, and the north-south route leading from Greater Poland to Lesser Poland and Bohemia. The topography was probably not conducive to high-density settlements. The territories of the early medieval Wrocław agglomeration were very extensive and hence, the settlement was dispersed and unifying it was posing major



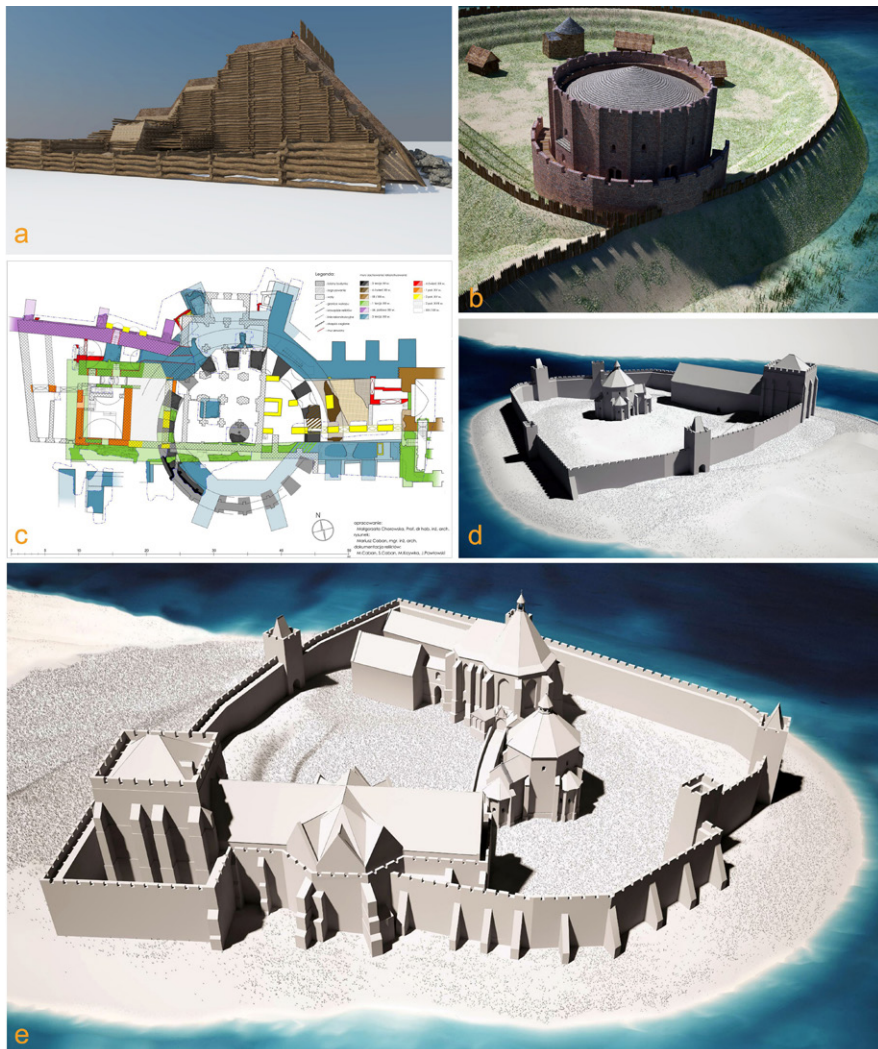


Fig. 3. Wrocław, Ostrów Tumski (Cathedral Island). a – hillfort embankments in the hook-spacer (grid) structure (developed by K. Raszczyk, W. Misztal under the substantive supervision of R. Mruczek; Archives of the Department of History of Architecture, Art and Technology of the Wrocław University of Science and Technology); b – eighteen-sided donjon (after Chorowska 2019; drawing by M. Krzywka); c – projection of relics with chronological stratification (after Chorowska 2014; drawing by M. Caban): phase I (black/grey) – 3<sup>rd</sup> third of the 12<sup>th</sup> century; phase II (dark brown) – 4<sup>th</sup> quarter of the 12<sup>th</sup> century; phase III (light brown) – turn of the 12<sup>th</sup> and 13<sup>th</sup> century; phase IV (green) – 1<sup>st</sup> third of the 13<sup>th</sup> century; phase V (purple) – around the mid-13<sup>th</sup> century; phase VI (blue) – 3<sup>rd</sup> third of the 13<sup>th</sup> century; phase VII (red) – 4<sup>th</sup> quarter of the 13<sup>th</sup> century; phase VIII (orange) – 1<sup>st</sup> half of the 15<sup>th</sup> century; phase IX – (yellow) – 2<sup>nd</sup> half of the 15<sup>th</sup> century; d – reconstruction of the castle during the reign of Henry I the Bearded (after Chorowska 2019; drawing by M. Krzywka); e – reconstruction of the castle during the reign of Henry IV Probus, pretender to the Polish crown (after Chorowska 2019; drawing by M. Krzywka)

difficulties for a long time. Cut by former Oder riverbeds, the territory was largely swampy and forested – perhaps with the exception of the left-bank *plateau* in the area of today's Old Town that first housed a belt of cemeteries running along the edge of the floodplain terrace and then the first Wrocław churches that were built on several peaks in the area; for a long time, settlement plans were hindered by this topography. The other important factor was a strong ownership diversity of these areas. Apart from the duke, the bishop, the chapter, and religious congregations, an important role was played by private landowners who were mainly members of the local nobility and, to a lesser extent, newcomers.

Apart from the intensive settlement on the Oder islands of Ostrów Tumski and Piasek, from the very beginning, the right-bank settlement complex of Olbin of a proto-city character definitely stood out. It involved the immense Church of the Blessed Virgin Mary and Saint Vincent Church, the Benedictine Abbey, then Norbertine Abbey, Saint Michael Church, and All Saints Church, a market of supra-regional importance, and the alleged magnanimous palatium of the powerful and influential Włostowic family. The left-bank settlements did not immediately assume a city-forming role. With its early origins (probably the turn of the 12<sup>th</sup> century that can also be linked to the activities of Wrocław's nobles, the old left-bank settlement *Ad Sanctum Adalbertum* was not given this chance until the 13<sup>th</sup> century with the newly established settlements of Walloon weavers, Jewish merchants, and German guests. However, other centres were gradually marginalised, for example, Szczepin, the non-existing now Sokolniki, or the mysterious settlement next to the Church of Saint Mary of Egypt.

With the current state of field research, the spatial reconstruction of the settlement in the area of the present-day centre of Wrocław in the 12<sup>th</sup> and 13<sup>th</sup> centuries does not, in fact, contain any disputable elements (Młynarska-Kaletynowa 1986; 1992). However, the recognition of its southern zone leaves much to be desired, i.e., not only the so-called outer city but, above all, the areas of today's southern districts. The main trade routes, namely, the west-east route – from the Rhineland to Ruthenia, and the north-south route – from Greater Poland to Lesser Poland and Bohemia, originally bypassed this zone, heading straight to the south-east – to Olawa, Brzeg, Opole, and Kraków. The later important trade route to Świdnica was of little significance at that time (cf. evolution of views – Młynarska-Kaletynowa 1986, p. 122, Fig. 13; 1992, p. 86, Fig. 48; 1995, p. 22, Fig. 4; 1997, pp. 23–30, Fig. 3; Piekalski 2002a, p. 50, Fig. 1; 2010a, p. 408; Chorowska, 2010a, p. 78, Fig. 19, p. 79, Fig. 20, p. 85, Fig. 26). In the 12<sup>th</sup> and 13<sup>th</sup> centuries, no significant stone buildings were built in this zone; specifically, no churches, bridges, or inns were erected that would mark travel routes, thus confirming the status of settlement centres. Considering the so-called first parish reform that was being implemented in Wrocław consistently from 1215 and resulted in flourishing construction endeavours, this is a puzzling phenomenon. Few inhabitants of these areas were probably under the



pastoral care of the parish at the old Saint Nicholas Church in Szczepin (mentioned from 1175) and Saint Maurice Church in Przedmieście Oławskie (Oławskie Suburb, mentioned in 1226 and 1234). Some settlement marginalisation of this area in the early Middle Ages was probably due to water conditions, which were analysed by Janusz Badura (2009) during the research of the so-called flood depression and the oldest fortifications of Wrocław in the area of the present Plac Wolności (Freedom Square) (Badura *et al.* 2010). It turned out that after heavy rainfall and during spring thaws, this area was flooded periodically with the waters of the stream that drained the area of the present Krzyki district. In the place of the Gothic Corpus Christi Church, there was a pond similar to Mysi Staw situated in the vicinity, which was still known in modern times. Both were later liquidated during the construction of the Wrocław fortifications. Therefore, the durability of the local settlement was initially hindered by water, the regulation of which became a primary task. In order to carry it out, it was necessary to employ experts, specifically, at that time, the Cistercians (present in Silesia from 1163/1175) and the Walloons settled in Wrocław famous for their hydrotechnical works in Brunswick, Hildesheim, and Magdeburg (Słoń 2007; pp. 11–20; Badura *et. al.* 2010, p. 409).

The defence system of Wrocław's early urban agglomeration in the Piast era, intuitively reconstructed by Morelowski (1954), was supposed to be based on three key elements in terms of strategy for Wrocław, that is, Ostrów Tumski, the area of the present Main Building of the University of Wrocław, and the area of the City Arsenal. The system also included a place for the settlements adjacent to the Oder River, namely, Szczepin and Sokolniki. As in the case of the German researchers, Morelowski appreciated the strategic advantages of the location of the later Ceglarzski Bastion on the eastern foreland of the New Town. However, such an early chronology of the fortifications in that zone has not been archaeologically confirmed yet. Likewise, due to the lack of significant archaeological discoveries in the entire Oder zone, Morelowski's concept has not been recognised among researchers. For many years, the settlement of the former Wrocław agglomeration, scattered over a large area on both sides of the Oder and also on the Oder islands, was believed to not be of a defensive character. The first doubts appeared during the archaeological research carried out in Ołbin. The exploration revealed remains of the defence system of this key market settlement with a vast complex of Benedictine Abbey, then the Premonstratensian Church of the Blessed Virgin Mary, Saint Vincent Church, Saint Michael Church, and All Saints Church, as well as the courts of nobles (Piekalski 1991, pp. 5–42, 120–127, Fig. 1). The period of its greatest splendour falls within the years 1139–1232 and ends with the establishment of the municipality. The oldest fortifications of Ołbin had the form of defensive and anti-flood embankments that protected the settlement complex against frequent flooding of the so-called Saint Vincent's Oder – the most significant branch of the river in the area of Wrocław in terms of economy. In the late Middle Ages, they were replaced with defensive

walls that included towers or fortified towers. At present, there is some evidence of a defence system around the settlement of German guests near the Parish Church of Saint Mary Magdalene that has been in operation since the end of the 12<sup>th</sup> century and was replaced with a new church during the urban reforms of Henry the Bearded (ca. 1226–1232). In the archaeological strata under Kurzy Targ Street, apart from the relics of the dynamically developing settlement from the period of after 1209–after 1230, there is a several-meter wide belt of redeposited primary humus, about one meter thick, which could have survived intact basically only under an extensive structure, perhaps that of an embankment or a rampart (Mruczek 2000, pp. 263–264; 2019b, p. 88; Mruczek, Kastek 2024, pp. 40–41).

### *Three castles of Wrocław*

#### Political and military context

The dynamic period of the development of Silesian defensive and residential architecture in the years 1163–1241 saw investments made by Duke Bolesław I the Tall and also, in particular, by both Silesian Henrys, presenting a surprisingly high European level, which also referred to the latest advancements in the martial art of the West, strongly inspired by the achievements of Byzantium rediscovered during the Crusades. The so-called early castles (Boguszewicz 1998; 2001; 2010; Rozpędowski 1999; Chorowska 2003), equipped with *bergfried* towers, a donjon, defensive walls, fortified towers, outer bailey systems, and perhaps even the so-called *zwinger*, appeared in the panorama of Silesia (Mruczek 2003; 2005; 2012; 2018; Chorowska, Mruczek 2023). They exceeded the standards of the Saxon-Hessian castle model typical for this part of Europe. In neighbouring Bohemia, there was a fortified tower system known to us from the 12<sup>th</sup>-century Prague Castle (*Pražský hrad*). Under the reign of Wenceslaus I of Bohemia, the first French-type castellum called Tyřov Castle was built before 1249; however, contrary to expectations, it failed to revolutionise Central European *militaris* architecture (Durdík 1994, pp. 9–13, 140–147; Arsyński 1995, p. 69 ff.). In Silesia, the first defensive walls with fortified towers were built, of course, as fortified perimeters of the castles of Legnica, Wrocław, and Opole in the first half of the 13<sup>th</sup> century (Rozpędowski 1961; 1962; 1965; 1971; 1978a; 1999; Kozaczewski 1957, pp. 65–66; Małachowicz 1973; 1978; 1993; Kastek *et al.* 2013; Chorowska 2014; Chorowska, Mruczek 2022)<sup>2</sup>, which is earlier than the capital Wawel in Cracow where such an investment was not carried

<sup>2</sup> A correction of the chronology of the defensive walls of the Wrocław castle on Ostrów Tumski has been recently introduced by Chorowska (2014), who dated their northern curtain in the section west of the eighteen-sided building broadly to the period from broadly to the 2<sup>nd</sup> third of the 13<sup>th</sup> century and, at the same time, proving its seniority over the defensive perimeter from ca. 1248–1266.

out before the rule of Wenceslaus II of Bohemia at the turn of the 14<sup>th</sup> century, and earlier than the similarly dated royal castle of Przemysł II in Poznań. Implemented from the year 1228, the Opole investment of Duke Casimir I is likely the earliest one in this group and, at the same time – due to the solutions adopted – quite a traditional one. Although known only fragmentarily, the Legnica investment, which was under advanced construction in ca. 1234 (SUB. 1977, no. 421)<sup>3</sup>, seems to be the most modern. We were able to discover the splendour of medieval Wrocław castles owing to the excavations that have been conducted by archaeologists and architectural historians since the 1940s.

### Castle on Ostrów Tumski (Fig. 3: b–e)

The origins of the castle on Ostrów Tumski – the third structure of this type in Poland after Wawel and Wleń – are connected with the return of Bolesław I the Tall (1163–1201) from exile and cover the period of ca. 1175–1200, making it one of the oldest defensive residences in this part of Europe (Małachowicz 1993; Chorowska, Lasota 2013; Chorowska 2014; 2017a; 2017b; Chorowska, Caban 2015; Chorowska *et al.* 2015). It included an eighteen-sided brick donjon-type tower and a large residential building that were erected within the wooden and earth embankments of the “western” hillfort. Soon after, this tower was reinforced with an additional perimeter wall of the *Chemise* or *Mantelmauer* type in a plan of a circle or a circular sector. The innovative character of the polygonal Wrocław tower brings it closer to the second generation of French donjons and English keeps built under the influence of the experiences brought by the Crusades, while the building material indicates the participation of Lombard and German workshops from the Cistercian, Premonstratensian, and Augustinian circles (Mruczek 2018, pp. 118–122; 2019b, pp. 84–85; Chorowska, Mruczek 2023, pp. 3–16). The vast hillfort ramparts with sloping faces, forming the main defensive perimeter of this building, constituted an obstacle similar to the stone defensive perimeters known from Crusader castles in the Holy Land. Under the rule of Henry the Bearded and Henry II the Pious (1201–1241), the castle was expanded. Among others, modifications included a palatium connected to a new cuboidal building (donjon?) and a fragment of the defensive wall on the northern side with a course suggesting the original oval shape of the fortifications, and a range of the seat slightly smaller than expected. During the construction of the palatium, large parts of the eighteen-sided tower were adapted, converting it into a building of central-longitudinal plan. In this form, the castle witnessed the Mongol invasion in 1241 and – much like the Legnica castle – it was not conquered. In 1254, in the face of the threat of another invasion of

<sup>3</sup> A document from 1234 mentions Master Jakub, former construction manager of the Cistercian nuns church in Trzebnica, which has been known in Silesia since 1208.

nomads and fights with the Greater Poland Piasts that occurred due to the dynastic war over the Babenberg inheritance (1246–1278), a decision to build new defensive facilities was made. Most likely, this started with the modernisation of the Wrocław castle, where a brick defensive wall with fortified towers was added (ca. 1257?). The works accelerated in 1260, after the unfortunate war experiences of Duke Henry III the White (1248–1266) with the nomad art of war (Mika 2008, pp. 60–61). The 1259/1260 Mongol invasion of Poland that ensued was of key importance, resulting in the devastation of Sandomierz and Cracow. Duke Henry IV Probus (1278–1290), a contender for the crown, brought the castle on Ostrów Tumski to its greatest prosperity. During his reign, the Wrocław ducal residence undoubtedly surpassed Wawel in terms of grandeur and alluded with its sophisticated spatial and functional layout to Charlemagne's Aachen palatium. Its core was a palace of an immense size, rectangular in plan, with an octagonal hall, a cuboidal donjon, and a three-level octagonal chapel connected to the palatium by means of a porch on the arcaded foundation. The impressive perimeter walls were equipped with fortified towers and gate towers. They became a model for the oldest defensive walls of left-bank Wrocław. The duke's death in 1290 marked the end of this majestic building whose original construction plan was probably unfinished, as the residence was taken over by church dignitaries.

Left-bank castle, later the imperial castle (Figs. 4, 5)

The second Wrocław castle was built on the left bank of the Oder in the vicinity of the early town settlement (Luchs 1863; Burgemeister 1902; 1930; Bimler 1933; Morelowski 1955; Kaźmierczyk 1959; Małachowicz 1994; Żurek 1997; Mruczek, Stefanowicz 2000; Mruczek *et al.* 2005; Konczewski *et al.* 2007; Konczewski *et al.* 2014; Badura, Kastek 2018; Chorowska, Mruczek 2022; Nowakowski 2023). The construction of the castle is mentioned in the Magdeburg Legal Notice (KDŚl. 1959, pp. 90–94, no. 147; SUB. 1963, pp. 235–237, no. 321), broadly dated to the years 1211–1238 (Młynarska-Kaletynowa 1986, pp. 106–107) or 1232–1241 (Goerlitz 1935, pp. 92–105) and addressed to one of the Henrys of Silesia. In the early 1230s, when Henry I the Bearded moved the main crossing of the Oder westward and repurchased the trading privilege from the Ołbin Abbey, the left-bank castle gained strategic importance for the founded city, and this explanation of its origins should be presented in contemporary times (Mruczek 2012). Erected on the remains of an older embankment, the brick building included a cuboidal defensive tower extending far to the north, i.e., towards the Oder crossings, adjacent to a building equipped with buttresses (soon after incorporated into the perimeter of the defensive walls) (Konczewski *et al.* 2007, pp. 225–254). One of the towers – probably the castle tower – was mentioned in a document from 1253 as *turris latericea destructa*. The likely reason for the construction disaster is the Mongol invasion of 1241 and the

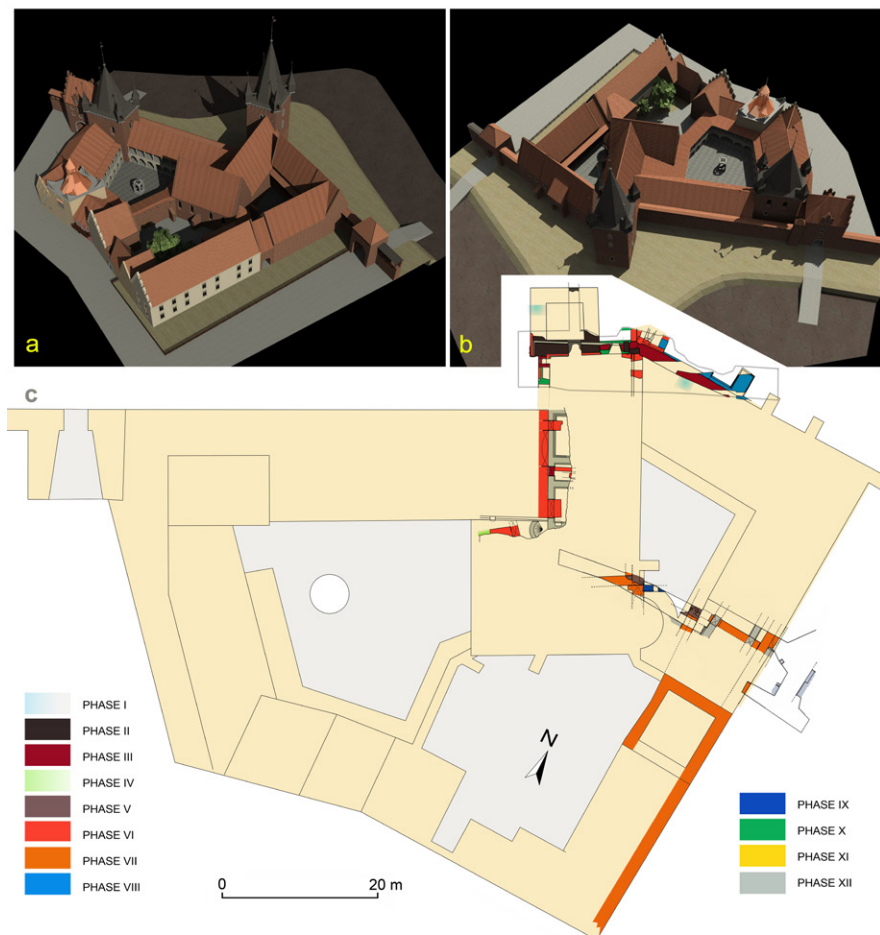


Fig. 4. Wrocław, left-bank castle. Reconstruction of the castle complex in modern times according to M. Caban under the substantive supervision of R. Mruczek: a – view from SE; b – view from N (Archives of the Department of History of Architecture, Art and Technology of Wrocław University of Science and Technology); c – relics of architecture discovered in 1999–2024 with chronological stratification (after Mruczek, Stefanowicz 2000; Mruczek *et al.* 2005; Konczewski *et al.* 2007; Chorowska, Mruczek 2022; archival total station measurements – R. Mruczek, M. Stefanowicz; archives of Akme 1999–2005 and A. Pałka, K. Krupa, M. Kurdyś; Archives of the Department of History of Architecture, Art and Technology of Wrocław University of Science and Technology). The approximately outline of the castle complex was reconstructed on the basis of K. Bimler (1933; drawing by R. Mruczek, M. Bijak, T. Kramar, M. Stefanowicz, A. Woźniak). Chronological stratification: phase I (azure) – 1<sup>st</sup>–2<sup>nd</sup> quarter of the 13<sup>th</sup> century; phase II (dark brown/dark grey) – 1<sup>st</sup>–2<sup>nd</sup> quarter of the 13<sup>th</sup> century; phase III (dark red) – 3<sup>rd</sup> quarter of the 13<sup>th</sup> century; phase IV (light green) – 2<sup>nd</sup> half of the 13<sup>th</sup> century; phase V (brown) – before the mid-14<sup>th</sup> century; phase VI (red) – 14<sup>th</sup> century – 1<sup>st</sup> half of 15<sup>th</sup> century; phase VII (orange) – 3<sup>rd</sup> third of the 15<sup>th</sup> century; phase VIII (light blue) – 1<sup>st</sup> half of the 16<sup>th</sup> century; phase IX (dark blue) – after the mid-16<sup>th</sup> century; phase X (dark green) – 17<sup>th</sup> century; phase XI (yellow) – 18<sup>th</sup> century; phase XII (grey) – 19<sup>th</sup> century

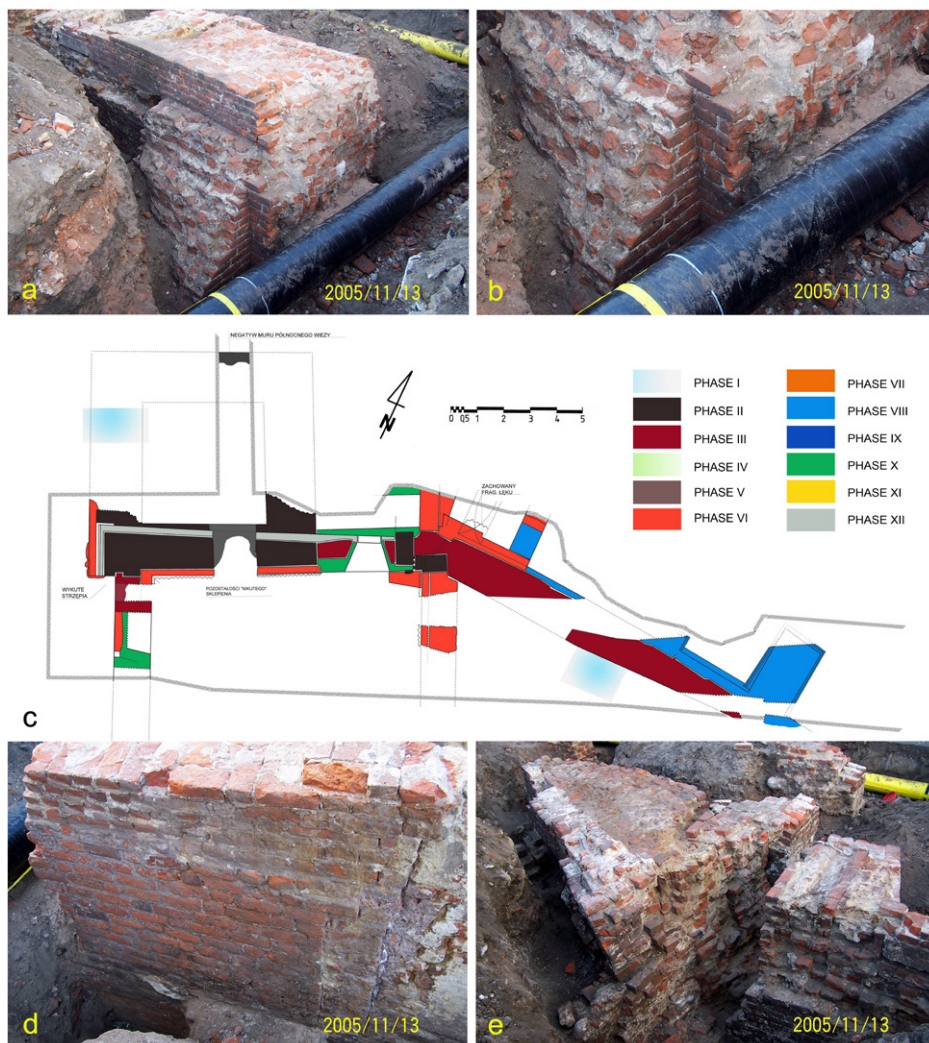


Fig. 5. Wrocław, left-bank castle. Relics of the rectangular tower architecture (phase II). a – view from N; b – view from N (close-up); d – view from SE; c – architectural relics discovered in 2005 (after Konczewski *et al.* 2007 and archival total station measurements – R. Mruczek, M. Stefanowicz; archives of Akme; after Chorowska, Mruczek 2022; drawing by R. Mruczek and M. Bijak); e – relics of the architecture of the cross buttresses of the older palatium building (phase II) and the defensive wall (phase III); view from NW (photo by R. Mruczek)

great flood of 1253, which certainly did not spare this riskily located stronghold. Despite the significant protrusion of the castle towards the north, it was enclosed by the first ring of city defensive walls. The concept of the left-bank defensive and sacral complex of the Piast dynasty from the 2<sup>nd</sup> and 3<sup>rd</sup> quarters of the 13<sup>th</sup> century evokes vivid associations with the Prague Castle complex. The construction of this huge complex was probably inspired by Henry II the Pious (1238–1241) and Anna (1238–1265), daughter of King Ottokar II of Bohemia and regent in the first years after the Battle of Legnica. The fundamental reconstruction of the castle took place under the rule of Charles IV of Luxembourg (1346–1378), when the building acquired the character of an imperial multi-winged residence, polygonal in plan, with three towers of the donjon type, a palatium, and a chapel (Bobková 2005; Holá 2005; 2007; 2008; 2012; Czechowicz 2011; 2013; 2015; Chorowska, Mruczek 2022). Both the northern tower, was famous for numerous views of the city, and the palatium constitute adaptations of older castle buildings of 13<sup>th</sup>-century origin in the light of archaeological research (Konczewski *et al.* 2014; Chorowska, Mruczek 2022).

#### The left-bank castle of Henry IV Probus (Fig. 6)

The third most mysterious and chronologically the most recent Piast castle in Wrocław was located at the site of the present Arsenał Mikołajski (Mikołajski Arsenal, 1459–1578). Despite long-term archaeological studies, Wrocław researchers struggled to accept it, and hence, its existence was repeatedly questioned (Romanow 1979; Romanow, Piwko 1992; Mruczek *et al.* 2015a; Badura, Kastek 2018; Kmiecik, Szwed 2021). Today, there is no doubt that the construction works on this second magnificent left-bank stronghold actually commenced in the second half of the 13<sup>th</sup> century, albeit interrupted soon after. Located on the Oder escarpment, this place of great strategic importance was mentioned by chroniclers on the occasion of the events of 1172, when Bolesław the Tall was preparing to defend himself against his relatives and the Wrocław nobles. The analysis of historical sources leads to the conclusion that the construction of the castle may be chronologically linked to attempts at reviving settlements in the so-called outer city (in 1272, a mention of *fossata exteriora*; BUB. 1870, pp. 39–40, no. 39) and completing the chartering process from 1261 that was systematically pursued, year after year, by Henry IV Probus in 1271–1277 (Goliński 2005, pp. 49–62). Undoubtedly, the perimeter of the castle walls is stratigraphically older than the external fortifications of Wrocław from the years 1299–1348 (Mruczek *et al.* 2015a). The spatial layout of this brick stronghold seems to be the most mature among Wrocław's castles. The irregular quadrilateral of the walls was equipped with four corner cuboidal towers, one of which – connected to the bridge crossing – must have served as a gate. Only one of the towers, which was significantly protruding – similarly to a fortified tower – in front of the perimeter of the defensive walls and incorporated into Arsenał



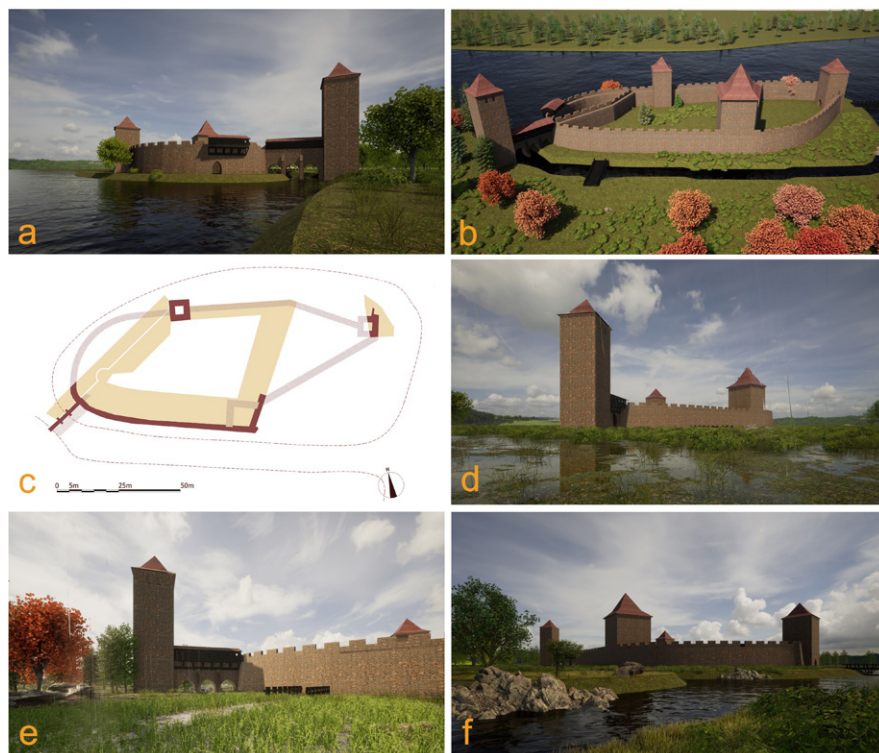


Fig. 6. Wrocław, left-bank castle II (later City Arsenal). The presumed appearance of the unrealized building based on relics discovered during excavations. a–b, d–f – an attempt at reconstruction of the castle on the basis of previous excavations (developed by K. Kowalczyk, M. Tutaj, M. Weron under the substantive supervision of R. Mruczek; Archives of the Department of History of Architecture, Art and Technology of the Wrocław University of Science and Technology); c – research results (brown) and hypotheses (dashed) (after Kmiecik, Szwed 2021)

Mikołajski, has been preserved in its entirety. The castle that due to its spatial layout evoked associations with the concept of the so-called Central European castellum represented, inter alia, in the territory of neighbouring Bohemia, Austria, or Italy, as well as Pomerania and Prussia conquered by the Teutonic Knights, was likely founded by, again, Henry IV Probus, i.e., one of the most powerful feudal lords of Central and Eastern Europe and a pretender to the Polish throne in the years 1288–1290. The use of a single-stretcher bond (Gothic, Polish) in the castle walls places the building in a close chronological relationship with the presbytery of Saint Cross Collegiate (1288–1295) on Ostrów Tumski or the Saint Martin's Castle Chapel (before 1290), both funded by the Duke, and consistently erected in this bond which was quite new in the realities of Wrocław at that time.

*The defence system of early Wrocław at the dawn of the granting  
of the charter*

Historical and urban conditions

We can learn about the beginnings of the urban reform in this part of Europe mainly owing to the extensive archaeological and architectural research conducted in Silesia in the post-war period. It should be emphasised that the most likely progressive transformation of the early medieval Wrocław agglomeration into a late medieval municipal city with a regular chess and block spatial layout would not have been possible without the implementation of Western economic and legal models. In this sense, it certainly bears the features of an urban, economic, and legal revolution. This is a new quality in the sparsely urbanised space of Central and Eastern Europe. Both the old system of servile settlements connected to the hillfort on Ostrów Tumski that functioned within the framework of the castellan organization, the ducal law system, and natural economy, as well as the settlement complex on both sides of the Oder that was the incipience of the town, polycentric in its structure, underwent quick transformations at the end of the 12<sup>th</sup> and 13<sup>th</sup> centuries due to a gradual departure from the ducal law system and a transition into a rent-based (socage) economy, culminated in the so-called first charter granted by Henry the Bearded before 1238 and subsequent acts from the years 1242 and 1261 (Młynarska-Kaletynowa 1986; Kozaczewska-Golasz 1995; Rozpędowski 1995; Eysymontt 2009; Limisiewicz, Mruczek 2010; Piekalski 2014). These processes were consistent with the trends noticeable in key early urban centres in this part of Europe. In ca. 1176–1178, in Prague, often compared to Wrocław, Duke of Bohemia Sobeslaus II issued a privilege for its German inhabitants who formed a separate community in the early urban agglomeration (*Urkunden* 1970, no. 93; Zientara 1997, p. 144). However, the example of Magdeburg, where we are dealing with the privilege of Archbishop Wichman issued in connection to the 1188 conflagration of the city, turned out to be crucial. Its copy was handed over by Henry the Bearded to “guests” from Złotoryja in 1211 (KDŚl. 1959, pp. 84–90, no. 145, 146; SUB. 1963, pp. 91–92, no. 125; Zientara 1997, p. 153 *ff.*). The Magdeburg Legal Notice from ca. 1211–1238 (Goerlitz 1935, pp. 92–105; KDŚl. 1959, pp. 90–94, no. 147; SUB. 1963, pp. 235–237, no. 321; Młynarska-Kaletynowa 1986, pp. 106–107), which was connected to Wrocław, clearly speaks of new organisational principles that had been in force for some time in the emerging city. It is likely that by that time, i.e., at the end of the 12<sup>th</sup> century, Bolesław the Tall had already begun to introduce legal and spatial reforms on the left bank of the Oder. Settlements of Walloon, Jewish, and German colonists were then established and located within the early urban agglomeration (Młynarska-Kaletynowa 1986; 1992; Kozaczewska-Golasz 1995, p. 55; Słoń 2007, pp. 14, 20). However, we know nothing about their legal

basis. The evidence of the changes taking place can only be seen in the references from the early reign of Henry the Bearded concerning *civitas Vratislaviensis* from 1204 (KDŚl. 1956, pp. 273–277, no. 107) and a curia located *in foro Vratislaviensi* from 1208 (KDŚl. 1959, pp. 25–55, no. 130, footnote 38); however, the location of the aforementioned trade exchange place might be questionable. The founding of the Holy Spirit Hospital in 1214 determines the next stage in the implementation of the charter plan (KDŚl. 1959, pp. 122–125, no. 163; SUB. 1963, pp. 100–101, no. 142). The duke established it in consultation with Witosław, the abbot of the Canons Regular on Piasek (Sand Insel). Among the witnesses of this act, Wrocław Schultheiss Godinus appeared for the first time – probably a representative of the commune of German *hospites*. The beginnings of the great parish reform in 1215 coincided with the unquestionable financial success of the Duke of Silesia in the field of colonisation (von Loesch 1928, pp. 572–589; Panzram 1940; Silnicki 1953; KDŚl. 1959, p. 133, no. 170; SUB. 1963, p. 109, nos. 149–151; Kozaczewski 1990, p. 5; Kutzner 1994, pp. 256–259, diagram I–II; Zientara 1997, pp. 149, 189–191; Mruczek 2005, pp. 55–71). Soon afterwards, a network of parish churches was established in the area of the former agglomeration. It is rather unlikely that one could question the urban character of the Wrocław (*civitas Vratislaviensis*) of 1226, when the Dominican Order was brought in and the Parish Church of Saint Adalbert (Wojciech) – formerly the main left-bank church (SUB. 1963, pp. 194–195, no. 266; KDŚl. 1964, pp. 141–145, no. 326) – was handed over to the Dominicans. This is probably connected to the relocation of the city to the west and demarcation of new parishes on the left bank of the Oder. In 1229, another village headman of Wrocław Alexander – perhaps a representative of the Walloons – was mentioned (BUB. 1870, pp. 7–8, no. 8; Bukowski 1958; SUB. 1963, pp. 225–226, no. 305). In the years 1230–1231, there was a dispute over the crossing of the Oder River between the Canons Regular from Piasek and the Premonstratensians from Ołbin (SUB. 1977, p. 4, no. 8), as a result of which Duke Henry the Bearded moved the main north-south route, which ran to the crossing through Piasek (Sand Island) and further to the market Ołbin, to a new location far from the former centres, westwards to the left-bank castle (Rozpędowski 1995, p. 49, Fig. 1; Goliński 1986, pp. 23–24)<sup>4</sup>. In this context, the construction of the second Wrocław castle makes strategic sense and the absence of the later Piasek Gate in the oldest defensive wall of Wrocław testifies to the temporary elimination of the ancient crossing (Romanow 2001, pp. 143–144; Romanow, Romanow 2010, pp. 159–160; Mruczek 2012, pp. 139–140, 143). Probably the last, albeit necessary, act of forming a new centre was the liquidation of the

---

<sup>4</sup> The concept of a north-south route running along Świdnicka Street and across the Market Square is supported also by Czerner (1977), who, however, sees its northern branch in the later Odrzańska Street; Chorowska (2010b, pp. 123–138) supposes a similar course of the north-south route in the incorporated Głogów on the basis of the analysis of the medieval subdivision network.

Ołbin fair in 1232 and its relocation to the left bank (Sub. 1977, pp. 14–15, no. 26). Therefore, the entire city-forming process significantly accelerated in the years 1215–1226 and – owing to the ruler's relentless efforts – probably came to an end in the years 1226–1232 (Piekalski 2002, pp. 287–291; 2005, p. 350; 2010, p. 76; Gawlas 2005, p. 158, footnote 176; Chorowska 2010; Limisiewicz, Mruczek 2010).

### The issue of the so-called first founding

The so-called first founding of Wrocław, which took place before 1241, is a generally accepted phenomenon in the Wrocław scientific circles. However, its spatial and legal consequences have always been fervently debated. Among the supporters of the very early urban revolution in Wrocław, one should mention Tadeusz Kozaczewski (Kozaczewska-Golasz, 1995, pp. 53–63), who reconstructed two regularly planned centres, i.e. *civitas* – connected with the Market Square and *forum* – connected with Nowy Targ already at the beginning of the 13<sup>th</sup> century. The vision of Młynarska-Kaletynowa (1986, pp. 100–123; 1992, pp. 83–93, drawing 48; 1995, pp. 18–22, Fig. 4) was completely different. According to her, the charter granted by Henry the Bearded did not bring a spatial revolution at all; instead, it was only an attempt at reforming the early medieval agglomeration, perhaps following the example of Prague. In recent years, however, the most important arguments support the validity of the assumptions made by Rozpędowski, the author of the concept of the Great Founding of Wrocław. According to him, this new regularly planned city was reaching as far as the later external moat (Rozpędowski 1995, pp. 41–51, 2011; Goliński 1986, p. 23), where the first border, the defensive systems, and flood protection systems were located (Badura 2009; Badura *et al.* 2009; Kastek 2010, pp. 381–389, 407–410; Konczewski *et al.* 2010, pp. 597–614; Mruczek, Stefanowicz 2010, pp. 414–422, 439–441). It also covered the areas of the later outer city, as evidenced not only by archaeology but also by the charter from 1261 (BUb. 1870, pp. 28–29, no. 23; Sub. 1984, pp. 241–243, nos. 373, 374). This is because back then, large areas of the early medieval Wrocław agglomeration, such as the settlements of Saint Maurice and Saint Mary (Egyptian?), were in a specific situation – *ante civitatem* and, at the same time, *infra fossata prime locacionis*. Of course, it was not only about the topographic aspects of such a location but, above all, its legal aspects, as it was leaving the former townspeople (burghers) outside the area governed by municipal law.

The last three decades of the broad-scale archaeological and architectural research that in practice led to the creation of a new branch of science, i.e., urban planning archaeology, are now conducive to the independent reflection, which is free from the assumptions of historians and urban planners as well as previously discussed theoretical models. Jerzy Piekalski (2002, pp. 287–291; 2005, p. 350; 2010, p. 76) particularly calls for this approach, pointing out not only a potentially

possible alternative interpretation of the discoveries that are constantly being made, but also seeing urban transformations as a continuous process spanning throughout the 13<sup>th</sup> century.

### Military conditions

The period of the reign of Henry the Bearded (1201–1238) – the arbitrator of dukes – was remembered as a time of relative peace in Silesia with district fights, everyday events in his father's times, not even reaching the provincial borders. When the political, economic, and urban planning work of the Silesian dukes was becoming a fact, the threat of a Mongol invasion was looming over Europe. From the perspective of Eastern Europe, this danger was not at all sudden and unexpected. This problem had been growing since at least the Battle of the Kalka River in 1223. Therefore, the issue of the duke's alleged preparations to repel the invasion requires an analysis (Goliński 1986, *passim*; Mruczek 2012, pp. 127–128). A question should also be asked about their impact on the development of Silesian fortifications. Owing to the familial contacts of the ducal couple which covered almost every important court in this part of Europe, they became aware of the threat of the Mongol invasion early enough, perhaps even as early as in 1235 or possibly from 1236–1237 (Jasiński 1988, pp. 15–16). It was at that time that the first alarming information about invasion plans was obtained from the Hungarian Dominicans (Bendefy 1937, pp. 21–25; Salij 1985, pp. 95–100; Jasiński 1988, pp. 15–16; Jackson 2007, p. 99). Undoubtedly, Henry the Bearded read the report of monk Julian devised for Pope Gregory IX because it was in the hands of the then-expert on the Mongol issue Bertold of Andechs (Jackson 2007, pp. 100–101, 107–108, 187–188), brother of Jadwiga and uncle of King Bela IV of Hungary. It announced the great Mongol offensive to Europe in the years 1236–1242 (*Tajna historia Mongołów* 2005, pp. 169–170). The report was disregarded by Frederick II Stauf<sup>5</sup>, but it certainly worried the Duke of Silesia<sup>6</sup>. In 1237 the Mongol invasion began with a raid on the Ryazan Principality (Nicolle, Szpakowski 2008, p. 86), followed by the conquest of Suzdal (1238), Chernihiv and Pereyaslav (1239), Kiev (1240), Halich, and Vladimir Volynsky (1241). In the late 1241, Mongolian troops embarked on a reconnaissance expedition to Lesser Poland and, allegedly, the Moravian Gate (Jasiński 1988, pp. 47–48). It is likely that the Magdeburg Legal Notice and the Wrocław charter from 1261, which contains information about the

<sup>5</sup> The real threat of a Mongol invasion in Western Europe was presented by Peter Jackson (2007, pp. 100–101, 107–108, 187–188).

<sup>6</sup> In 1236, a missionary bishopric for Ruthenia was established in Opatów, headed by Cistercian abbot Gerard. In 1237, Henry the Bearded gave the Lubusz bishops the rights of the Ruthenian bishop along with the Opatów estates in Lesser Poland and entrusted them with missions in Ruthenia (MPH, vol. 2, pp. 553, 556, 573; Teterycz-Puzio 2009, p. 99).

construction of fortifications of the left bank even before the Mongol invasion, in violation of the rights of the burghers, are related to hasty preparations to repel the attack. The mentioned *fossata prime locacionis* is probably identical to the extensive system of sand, earth, and fascine ramparts and moats surrounding the so-called Greater Wrocław and were discovered in the years 2006–2015 (Badura *et al.* 2010, pp. 365–425; Kastek 2010, pp. 361–378; Mruczek, Stefanowicz 2010, pp. 401–454). Unfortunately, we do not have any source information or direct precise archaeological evidence that would allow us to assess the state of defensive preparations. We do not know how reliable the later chronicler's opinion regarding the shape of Wrocław's urban fortifications is, i.e., "zuvor und nach Tatern Einfall sind nur Graben und hölzerne Parchien allada gewesen", which would allow us to form an opinion on their character at that time (Klose 1936, p. 6). The fact is that the city failed to withstand the Mongol attack in 1241 – probably burned down by the inhabitants themselves – and its full reconstruction in the changed political and economic landscape turned out to be a task beyond the capabilities of the young duke.

The areas of the former south-eastern pre-charter settlements incorporated into the city in the times of Henry the Bearded as a result of the hurried legal and spatial transformations of 1242 were finally outside the city of Bolesław II the Horned. According to Rozpędowski (1995, p. 41 *ff.*), the territorial collapse of such a large urban centre that limited it to the area enclosed from the south by the present Kazimierza Wielkiego Street was one of the consequences of the Mongol invasion and the economic depression that ensued. With the founding of Wrocław in 1261, which took place two decades after the city was burned down, the inhabitants of the area – at that time still located *ante civitatem* – regained the status of burghers due to their former privileges granted before the invasion (BUb. 1870, pp. 28–29, no. 23; SUB. 1984, pp. 241–243, nos. 373, 374). It is possible that this legal act could have resulted in the decision to strengthen the expanded city. In the vicinity of the main rampart and the relics of the later Świdnicka Gate II, a section of the 13<sup>th</sup>-century defensive wall was unearthed, its structure reminiscent of that recorded in the walls of the inner ring (Kastek 2010, pp. 372, 374–376, drawing 11, 373, Fig. 12). The moat itself, at that time already referred to as "external" (*fossata exteriora*) as opposed to its original name from 1261 – "moat of the first founding" (*fossata prime locacionis*) – did not appear in the sources until 1272 (BUb. 1870, pp. 39–40, no. 39); however, owing to the fact of the change of its name along with the aforementioned moment of letting the waters of the Oława into the inner moat, which was mentioned in 1291 (SUB. 1998, pp. 4–6, nos. 4–5), as well as the first mentions of the latter (CDS 1875, pp. 167–168, no. 1301) dated to 1268, their mutual chronological relationship can be recognised.

*Archaeological discoveries*

## Form – function – structure – construction technique and technology

The oldest urban fortifications of Wrocław were forming an extensive system of ramparts and moats that differed in terms of the design and character from the early medieval hillfort fortifications of Ostrów Tumski (Fig. 7). Their function and the method of financing the construction varied, likewise. What is even more surprising is their location, as they cover Wrocław within the so-called large oxbow lake – a flood depression – subsequently, the external moat (Badura 2009; Badura *et al.* 2009; Badura *et al.* 2010, pp. 381–389, 407–410; Kastek 2010; Konczewski *et al.* 2010, p. 599–600; Mruczek, Stefanowicz 2010, pp. 414–422, 439–441; Mruczek, Kastek 2024). *Fossata*<sup>7</sup> are primarily borders that can take the form of a ditch, a ditch with a rampart, or a belt of border mounds, constituting the equivalent of the former ducal *ujazd* – designating an urban zone which was excluded from ducal law (Sondel 2006, p. 394; Mruczek, Kastek 2024). The oldest unequivocal confirmation of the existence of a city moat is an account in the Wrocław charter from 1261 that mentions burghers living in areas located *ante civitatem* [...] *infra fossata prime locacionis*, thus referring to the range of significantly earlier urban fortifications connected with the activities of predecessors of Henry's III the White and Władysław of Salzburg (BUB. 1870, pp. 28–29, no. 23; SUB. 1984, pp. 241–243, nos. 373, 374). In recent years, this source record, which is difficult to explain and which has been often criticised and even questioned, gained strong archaeological grounds in the form of relics of sand-earth-clay embankments of a considerable width exceeding 7 m and up to 20 m, and accompanying moats, discovered in high numbers in the southern zone of the fortifications of Wrocław and also confirmed on the south-eastern and northern borders of the medieval city (Badura *et al.* 2010, pp. 381–389, 407–410; Kastek 2010, pp. 361–378; Mruczek, Stefanowicz 2010, pp. 414–422, 439–441). As an exception, a double system of ramparts and moats was recorded in the area of Świdnicka Street and the Knights Hospitaller Commandery. As a result of a stratigraphic analysis, it was determined that these fortifications were built in the 13<sup>th</sup> century, i.e., long before the erection of the outer belt of defensive walls began, which in turn would have taken place ca. 1299 at the latest. In the course of the research on the northern part of the city, it was further established that likewise, the rampart preceded the erection of the northern section of the inner defensive walls (after 1241–1291) and the left-bank ducal castle, which is older than them, most likely identical to the structure mentioned in the

<sup>7</sup> *Fossatum* – i) 1) ditch, moat, 2) border ditch, 3) border mound, 4) obligation to build embankments, 5) fortified camp, 6) army; *Fossa* – ae 1) ditch, moat, trench, 2) mine shaft, 3) grave, 4) rampart, embankment, 5) scone, 6) medium: the so-called trough measure of dug salt (Sondel 2006, p. 394).





Fig. 7. Wrocław, left-bank castle. Relics of the defensive wall (phase III), standing on the relics of the sand and earth embankment (phase I). a – view from S; b – view from W; c, d – Old Town, Teatralny Square, relics of the sand and earth embankment; e – Heleny Modrzejewskiej Street, relics of the sand and earth embankment (a–b – photo by R. Mruczek, c–e – photo by T. Kastek)

Magdeburg Legal Notice (ca. 1211–1238/1232–1241) and mentioned indirectly (destroyed brick tower) in 1253<sup>8</sup>. This rampart, which was rediscovered in 2002 and which had not been aptly interpreted until 2006 (Kastek 2010, pp. 361–378), may

<sup>8</sup> Likely a destroyed castle brick tower located on the premises of Duchess Anna's curia that appeared in the founding document of Saint Elisabeth Hospital from 1253: *item pars curie domine matris nostre usque ad turrem latericeam destructam post obitum eiusdem* (BUB. 1870, no. 17; SUB. 1984, pp. 50–51, nos. 60, 61).

be identical to a structure formerly discovered by Kaźmierczyk in the vicinity of the 13<sup>th</sup>-century defensive walls in the eastern part of the Old Town (Kaźmierczyk 1959a, pp. 118–120; 1964, p. 237; 1965, p. 151; 1966a, pp. 25, 27, 45–46; 1966b, p. 694; 1970, pp. 12, 14, 16, 17, 29, 30, 76–78; Kaźmierczyk, Lodowski 1963, p. 277). Undisputably, Rozpędowski (1995; 2011) associated it with the so-called Great Founding of Wrocław in the period of Henry the Bearded (before 1238). However, a large group of researchers see it only as a result of the granting of the charter in 1261 and linked to the eastward, southward, and westward expansion of the city (Piekalski 2014). It was caused by the desire to re-grant the municipal law to the hospites living in Saint Maurice and Saint Mary (Egyptian?) settlements. However, some even tend to see it as a temporary defensive perimeter directly connected to the long process of building the outer city walls in the first half of the 14<sup>th</sup> century, which may seem logical at first glance, albeit fails to withstand criticism in the light of stratigraphic analyses.

It is worth asking a question about the construction method of the fortifications of early Wrocław – the alleged *fossa primae locacionis*. It is doubtful whether this investment was carried out within the framework of the ducal law regime, which may also be supported by the economical design of the embankments different from the hillfort fortifications. Possible contractors might be sought among hydrotechnical experts, perhaps among foreign *hospites* who migrated to Silesia (Badura *et al.* 2010, p. 409). Experienced specialists in this field included the Cistercians who came here in 1175, as well as the Walloons who settled in Wrocław at the same time. They had already been entrusted with wetlands in Braunschweig, Hildesheim, and Magdeburg which needed to be drained (Słoń 2007, p. 12).

The oldest elements of the urban fortifications on the left bank of Wrocław include the moat and the earth embankment which has been systematically uncovered around the southern border of the present Old Town since 2006 (Kastek 2010, pp. 361–378; Mruczek, Stefanowicz 2010, pp. 401–454). In the course of the archaeological research to date, their sections unearthed in Teatralny Square and on Zamkowa Street near Wolności Square have been best identified. Owing to the archaeological surveys conducted at these sites, it was possible to identify the structure of the fortifications and the construction method used for building both them and the moat that accompanied these features. The formation of earth embankments was determined to involve deepening the ditch and piling the excavated material on its inner side, i.e. from the side of the future city. These conclusions were drawn based on analyses of the discoveries made in the area of Zamkowa Street and Wolności Square. The rampart was built as a sand and fascine structure (the area of Teatralny Square) as well as a typically sandy structure (e.g., the area of Wolności Square or Pawła Włodkowica Street). The earth embankment was placed on the previously prepared ground, i.e., on original humus (podsolich soil, overcalc layer) (Kastek 2010, pp. 364–374). This humus was cut in the roof part in order to obtain

an even groundwork over the entire width of the future rampart. Next, a layer was laid, consisting of mixed lumps of podsollic earth, clay, and sand. The lumps were sometimes up to 15 cm in size. This layer formed a stable groundwork for the future rampart, i.e., the so-called pillow. Only on this layer were the next levels of sand piled up, in some places interspersed with fragments of wood in the form of branches and small poles, from which negatives in the form of humus lumps have been preserved to this day, proving the existence of a fascine rampart structure in this place. In some places, between the base and the sandy embankment, brown streaks were found, which were probably negatives of the planks laid in that place (Kastek 2010, p. 366). The earth rampart made in this way was up to 15.5 m wide and could have been up to four meters tall<sup>9</sup>. In two places, i.e., in excavations at the intersection of Zamkowa street and Wolności Square, it was possible to establish the usable level from the time when the rampart was used, namely the layer of the then-ground level<sup>10</sup>. The remains of the moat from that time were discovered in the basements of the tenement house at 4 Pawła Włodkowica Street and at the previously mentioned Wolności Square. Originally, it was a dry moat, periodically flooded. The construction of the 14<sup>th</sup>-century stone fortifications built on the already settled rampart and the related remodelling of the moat for new fortifications resulted in the fact that the water started to flow. However, this was not an ongoing occurrence, as shown by the analysis of the strata at the bottom of the newly discovered parts of the moat.

### Mysterious accompanying structures

An unusual discovery was made in the foreland of the earth rampart on its northern side (Kastek, Mruczek 2016, p. 21, p. I, Fig. 1: b). Extremely regularly spaced negatives of cuboidal pillars (?) with dimensions of 71–82 cm by 25–26 cm, fixed into the calc base by approximately 20 cm, were recorded there. These negatives were arranged in rows at 40–60 cm intervals. The rows, in turn, were about 80–95 cm apart. During excavation studies on Zamkowa Street conducted in the course of its redevelopment, six rows of these negatives were discovered. They were also encountered on the neighbouring plot at 38–39 Kazimierza Wielkiego Street, where eight more rows of negatives were unearthed<sup>11</sup>. These structures were made at the exact moment when the earth fortifications of Wrocław were being made and functioned together with them for a certain time. Then they were demolished. The occurrence

---

<sup>9</sup> The actual width of the rampart was determined during the research on Zamkowa Street in 2015.

<sup>10</sup> In the study by Kastek this layer is marked under no. 9 (Kastek 2010, p. 368, Fig. 6).

<sup>11</sup> The unexplored belt of land between the excavations probably contains similar structures, likewise. In the northern front parts of the plots – on Kazimierza Wielkiego Street – these negatives were destroyed by brick buildings.

of this type of structures along with a rampart could confirm the existence of the 13<sup>th</sup>-century settlements within the area of the so-called “Great Founding” in this region, which disappeared or weakened after the reorganisation of the city under Bolesław II the Horned and the construction of the internal stone defensive perimeter. Again, the moat and the earth fortifications gained significance at the turn of the 14<sup>th</sup> century, when the outer defensive wall of Wrocław was erected on the earth ramparts.

*Fortifications in the defensive tower system.  
The internal perimeter of the defensive walls  
2<sup>nd</sup> and 3<sup>rd</sup> thirds of the 13<sup>th</sup> century (Figs. 8–10)*

Political and military conditions

Although the Mongol invasion of Poland and Hungary in 1241 caused the destruction of the left-bank city of Wrocław, probably set on fire by its inhabitants themselves, Silesia incurred a blow much more severe with the collapse of strong ducal power after the death of Henry the Pious. It contributed to a prolonged economic downturn the effects of which young Bolesław II the Horned tried to mitigate,

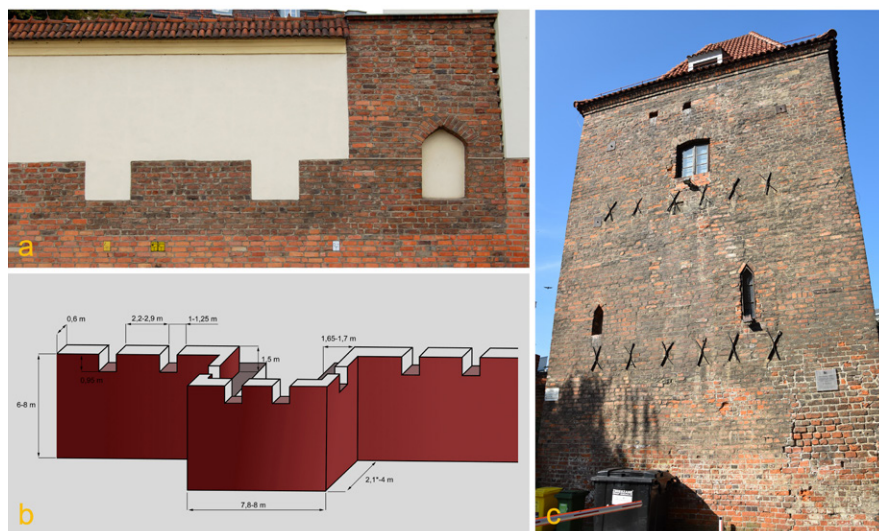


Fig. 8. Wrocław, Old Town. The internal perimeter of the defensive walls. a – one of the few preserved fragments at Grodzka Street; b – reconstruction of a typical half-shell tower of the main defensive circuit (after Konczewski *et al.* 2010, pp. 597–614; developed by R. Mruczek); c – tower from the 13<sup>th</sup> century defensive walls, heightened in the modern period and rebuilt after WWII damages, Wincentego Krainkiego Street (photo by R. Mruczek)

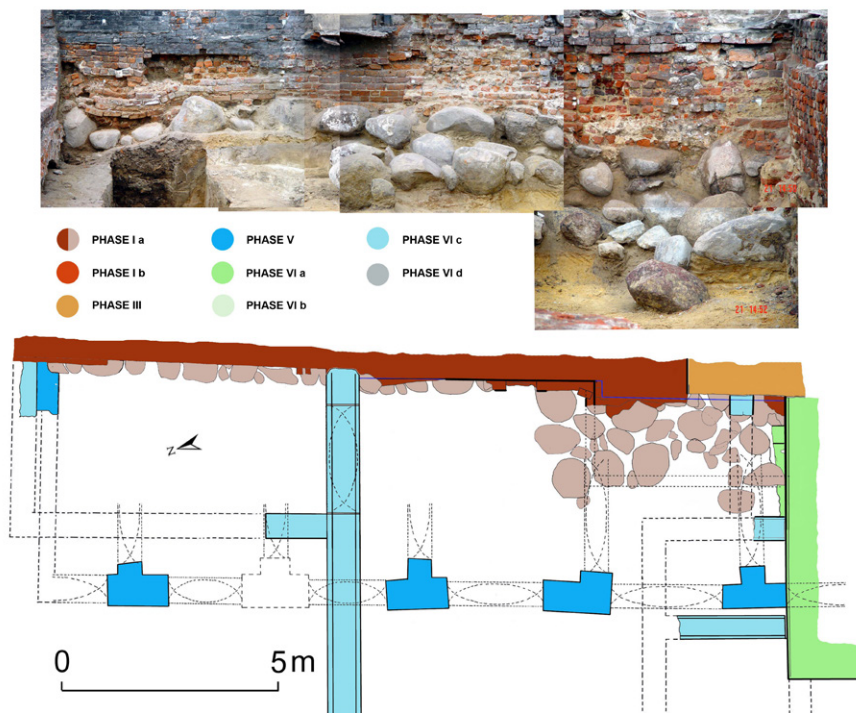


Fig. 9. Wrocław, Old Town. The internal perimeter of the defensive walls on the section between the Ruthenian Gate and the Saint Nicholas I Gate, discovered at 1 Białoskórnicza Street in 2001–2002. Phase Ia–b (dark red and red) – medieval city walls from the 13<sup>th</sup> century; phase III (orange) – filling the medieval wall; phase V (dark blue) – stable from the 16<sup>th</sup> century; phase VIa–d (green, blue, grey) – 19<sup>th</sup> century (after Kitliński *et al.* 2004; developed by R. Mruczek; photo by R. Mruczek)

albeit ineptly (SUB. 1977, nos. 229, 342, 410; Jasiński 1988, pp. 109–111; Cetwiński 1994, pp. 200–220; Korta 1994, pp. 7–33). In deep crisis, Silesia was soon drawn into the struggle for the succession to the Babenbergs (1246–1278) (Mika 2008), which resulted in repeated invasions by the dukes of Greater Poland in the years 1253–1254. At the Wrocław meeting in 1254, where the matter of the imprisoned castellan Mroczek of Pogorzela and Greater Poland's offensive into Silesia was discussed, everybody agreed on building "new castles" (Uhtenwoldt 1938, pp. 26, 143; SUB. 1984, no. 124; Jureczko 1986, pp. 65–70; *Liber fundationis* 1991, 7.81; Cetwiński 2001, p. 260; Dąbrowski 2007, p. 72). This event probably constitutes *terminus post quem* of the construction of the first stone fortifications in Wrocław. Soon after, i.e., in around 1261, the oldest city defensive walls became a fact. However, they enclosed the city whose area had been reduced, with vast areas excluded, specifically, in the



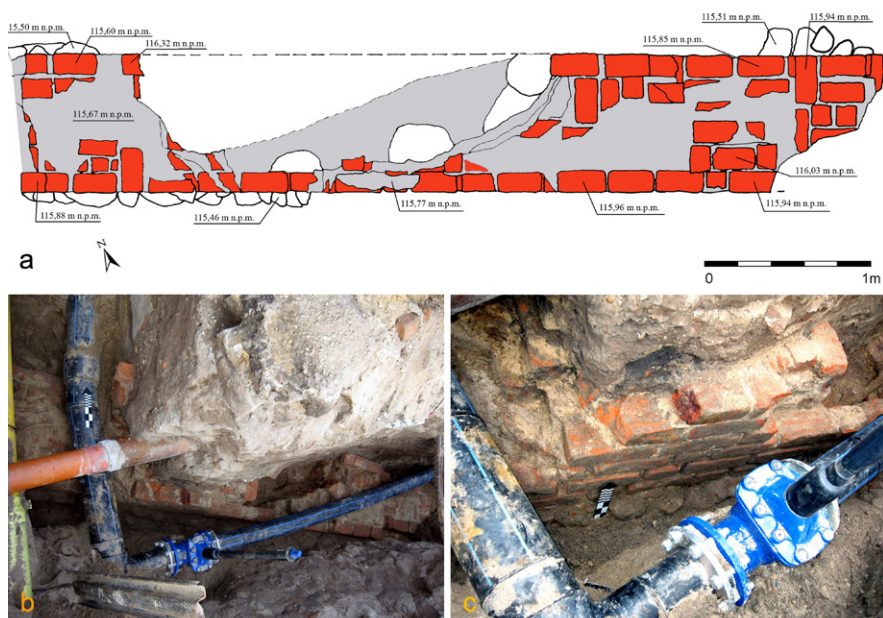


Fig. 10. Wrocław, Old Town. The internal perimeter of the defensive walls. Relics of the zwin-ger wall (the second of the three defensive circuits of the inner ring of the city walls) discovered on Karola Szajnochy Street. a – horizontal cross-section of the unearthed relic; b – view from the W; c – close-up on the brick face part (a – developed by T. Kastek; b–c – photo by T. Kastek)

southeast along with the Walloon settlement (Saint Maurice) and the settlement related to Saint Mary (Egyptian?) Church, as well as a belt of suburbs south and west of the very city centre. Nevertheless, it was an unprecedented investment in terms of scale. It is no coincidence that in 1244, Bolesław II the Horned issued a privilege for Wrocław brick-makers – *lateraria* (SUb. 1977, pp. 163–164, no. 272; Młynarska-Kaletynowa 1986, p. 126; Małachowicz 2005, p. 114). Most likely, immense quantities of bricks were required not only for the Gothic cathedral and fortifications of the second castle on Ostrów Tumski but, above all, for the city's defensive walls, too. The war over the Babenberg inheritance might have given another strong impulse to strengthen Silesia. In 1260, during the battle of Staatz and Laa, when the Polovtsy quickly eliminated the four-hundred Austrian squad of Otto of Hardegg, the hero of the war in Styria, the late relief of Henry III the White and Vladislaus I of Opole was so panic-stricken that the dukes intended to return to Silesia immediately (Mika 2008, pp. 60–61). The living memory of the Battle of Legnica in 1241, another bloody Mongol invasion of Poland in 1259/1260, and the new Austrian experience with the nomad warfare from 1260 could also have accelerated the decision to build new fortifications in Silesia (Goliński 1986).

## Archaeological discoveries and chronology of construction works

*Phase I.* It is not a matter of coincidence that the first defensive walls with fortified towers in Silesia were built as fortified perimeters of the castles of Legnica, Wrocław, and Opole in the 1<sup>st</sup> half of the 13<sup>th</sup> century, fortifications of the castles in Legnica (in around 1220–1241), Opole (in around 1228–after 1260), and Wrocław (from 2<sup>nd</sup> third of the 13<sup>th</sup> century – before 1241 – and around 1248–1266) (Kozaczewski 1957, pp. 65–66; Rozpędowski 1962; 1965; 1971; 1978; 1999; Małachowicz 1978; 1993; Chorowska 2014). They were soon followed by fortifications of Wrocław from ca. 1233 to 1300, which possibly began as early as in the 1240s (Lasota, Wiśniewski 1998, pp. 15, 28–29; Piekalski 2005, pp. 39–48; Konczewski *et al.* 2010, pp. 597–599; Żurek, Małachowicz 2011, p. 31; Legut-Pintal, Mruczek 2022, p. 133). A defensive wall with rectangular shell towers, which was probably erected on the initiative of Henry III the White, was mentioned as early as in 1261 (BUb. 1870, pp. 18–27, nos. 20, 21, 23; CDS 1875, pp. 104–105, no. 1098; SUB. 1984, pp. 241–243, nos. 373, 374). It was built with bricks in the *opus emplectum* technique using the Monk/Wendish/Slavonic/double-stretcher bond. A characteristic feature of the wall was a strip foundation formed in a narrow-space excavation made of glacial erratics sealed with humus and brick rubble without using lime mortar, measuring 2.1–2.6 m wide (extreme values: 1.8–3.0 m). The wall itself was 2.00–2.32 m wide and 8–9 m tall. Fortified towers with a front length of 7.8–8.0 m were erected with intervals of ca. 28–32 m, exceptionally 35 m. The height of the fortified towers, which was equal to the crown of the walls, with the significant protrusion of these works, i.e. up to 2.1–4.0 m (usually 3.5–4.0 m), indicates that their flanking function was perfectly understood (Lasota, Wiśniewski 1998).

*Phase II.* In the light of more recent research, Henry IV Probus, who is also credited with the second early Gothic castle on Ostrów Tumski and the unfinished castle near the Wrocław Arsenal, ordered further expansion of the city fortifications, increasing the number of perimeters of defensive walls to two or even three with two moats (BUb. 1870, no. 44; Lasota, Wiśniewski 1998, pp. 20, 28; Piekalski 2005, pp. 42–43). Therefore, we can see large-scale Wrocław investments in the second half of the 13<sup>th</sup> century clearly connected to the unification policy of Henry IV Probus. The width of the second defensive perimeter (the so-called upper terrace), which was also made with bricks using the Monk/Wendish/Slavonic bond (double-stretcher bond), was 1.2 m at the foundation level, 1.0–1.1 m near the foundation, and 0.9–1.0 m at the level of the defensive terrace. Similar parameters were recorded in the case of the third perimeter (the so-called lower terrace), where the width of the foundation was 1.1–1.2 m and the width of the wall ranged from 0.92–1.00 m, though a single-stretcher bond was already used there (Lasota, Wiśniewski 1998). In 1291, in the face of another armed conflict related to the fight for the succession



to Probus, Henry V the Fat hastily strengthened this defensive perimeter, letting the waters of the Oława into the city moat (BUB. 1870, no. 61; SUB. 1998, pp. 4–6, nos. 4–5)<sup>12</sup>. The buildings of the left-bank castle and the ducal reserve areas in the north of the city were included in the city's defensive perimeter (Mruczek 2012, pp. 139–140, 143).

### City gates

The issue of the city gates in internal Wrocław in the 2<sup>nd</sup> half of the 13<sup>th</sup> century has been relatively well analysed (Bimler 1940, pp. 9–13; Lasota, Wiśniewski 1998). At that time, the old crossing over Piaskowa Island was briefly out of use; the tower of the Piaskowa Gate (Saint Mary Gate) discovered there was built on the basis of one of the shell fortified towers (Romanow 2001, pp. 143–144; Romanow, Romanow 2010, pp. 159–160), which is probably a consequence of the dispute over crossings in 1231. It had to be replaced with a new northern gate near the left-bank castle – in the place where the Imperial (Cesarska) Gate stood later. However, it is beyond doubt that the following structures existed: Saint Nicholas I Gate, Ruthenian Gate, Świdnicka Gate I, and Oławska Gate I. All these structures have been recently explored to varying degrees. The defensive walls involved cuboidal passage gate towers with rectangular fore-gates. At the level of their foundations, the towers had a square projection with sides ranging from 8.0–8.7 m (Świdnicka Gate I) up to about 9.2–9.3 m (Oławska Gate I). Their fore-gates (later gate necks) have not yet been satisfactorily identified. In the case of Oławska Gate, the longitudinal walls of the fore-gates were probably completely demolished and only the former entrance testified to its existence in this place. The so-called *Ohlauer Schwibbogen* (Oławska Arcade) was still known from modern views of the city and formed in the 2<sup>nd</sup> perimeter of the 13<sup>th</sup>-century (the so-called upper terrace), which probably ended in this place, perhaps taking the form of the so-called bay (Limisiewicz, Mruczek 2010, pp. 93–95).

### Intriguing research problems

Building defensive walls is not only a great investment in economic terms, but above all, in administrative and logistical terms, especially in the context of high-density plot divisions in the centre of a city serving as the capital of a province. A perfect example illustrating this issue is the shape of the urban fortifications in the south-eastern part of the Old Town. With its crucial role for circulation routes, Oławska

<sup>12</sup> In a study by Samuel Klose (1936, p. 6) the following mention appears, “ist der Fluss der Ohlau umb die Stadt zuvor Befestigung geführt worden, da vorhin nur ein schlechter Graben gewesen”. For a recent take on the reasons for these studies – see Jurek 2006, pp. 27–55.

Gate divides the oldest defensive system of Wrocław into a southern belt and an eastern belt. Behind the gate, the perimeter of the fortifications turned towards the south-east and had the form of a single defensive wall, which was examined in detail in the context of large construction investments in the area of Dominikański Square (Limisiewicz, Mruczek 2010, pp. 93–95). In a way that is not entirely understandable, the strongly fortified southern belt with three defensive walls and two outer baileys changed into a single fortification belt known from Dominikański Square and the quarter between Wita Stwosza Street, Krawiecka Street, Oławska Street, and Błogosławionego Czesława Street (Bilińska *et al.* 2007)<sup>13</sup>. Theoretically, the perimeters should converge a little further north-east of the gate in the eastern belt of fortifications. A trace of this alleged solution might be the relationship of the non-existent Zaulek Winogronowy Street (in German: *Weintraubengasse*) – with an axis parallel to the course of the main defensive perimeter – to the course of the lost narrow street on the borders of the plots at 66 and 67 Oławska Street (former *Badergäßchen*), which was preserved on a plan from 1578 by Fryderyk Gross – corresponding to the presumed course of the second defensive wall (the so-called upper terrace). Although based on the drawing it is possible to clearly determine the place where these fortifications were adjoined in the region of the alleged fortified shell tower discovered during the 2004/2005 research on Krawiecka Street, the field works failed to confirm such a reconstruction (Kitliński *et al.* 2007). Regardless of the actual reason for abandoning this solution, there is undoubtedly some serious obstacle in the eastern foreland of the city fortifications that hindered the formation of a full-width defensive system. Was it linked to the cemetery that was closed in 1226 when the Dominicans were brought to the city and the parish seat was moved closer to the Market Square?

Moreover, the research also allowed us to establish that during the construction of the 13<sup>th</sup>-century tower of Oławska Gate I, an older self-supporting brick basement was destroyed. It was connected to an unknown wattle-and-daub building, likely an element of the development of one of the settlements of the early medieval agglomeration (Walloon settlement?) or the chartered city (Limisiewicz, Mruczek 2010, pp. 90–96). It is possible that we are dealing here with the first tangible evidence of the fortification works that were mentioned in the Magdeburg Legal Notice carried out by the duke in violation of the rights of the burghers. Such an early chronology of Wrocław's internal fortifications, which preceded the Tatar invasion of 1241, was accepted by Rozpędowski, who saw it as a correction to the original urban planning design caused by the threat of war. This is extremely interesting in the context of the findings made by Czesław Lasota and Zdzisław Wiśniewski regarding the chronology of the inner moat (Lasota, Wiśniewski 1998, pp. 11, 29). In the course

---

<sup>13</sup> In his reconstruction plan of Wrocław's fortifications, Małachowicz (1975, pp. 99–123, Fig. 3) presented Oławska Gate I as a structure without a foregate (Kitliński *et al.* 2007).

of the excavations in the quarter of the middle-class buildings between Łaciarska Street, Ofiar Oświęcimskich Street, Szewska Street, and Kazimierza Wielkiego Street, it was found that the lower part of the strata of the so-called internal moat (Czarna Oława) is a remnant of an earlier moat that perhaps operated in a system of wood-and-earth fortifications, with the end of the period when it was in use marked by remains of the construction process of the internal defensive walls. Interesting discoveries important for explaining this issue were also made in the opposite northern part of the city on the southern side of Nankera Square, next to the so-called House of the Ladies of Trzebnica, where a brick wall was erected in the Slavonic bond. It might be a relic of the so-called left-bank ducal area fortifications – the Magdeburg Legal Notice included information about the construction of the duke's castle and its separation from the city.

However, just as equally surprising for Wrocław researchers was the discovery of a fragment of a defensive wall identical in terms of technique and construction technology to the 13<sup>th</sup>-century internal wall, although it was located far south of its main line in the foreland of the 13<sup>th</sup>-century ramparts and the external perimeter of the city's defensive walls from the first half of the 14<sup>th</sup> century. It is likely a relic of interrupted fortification works undertaken during the construction of the internal ring, perhaps connected to the alleged gate devices by the road to Świdnica (the first Świdnicka Gate?), the importance of which increased in the 1240s (Eysymontt 2009, pp. 524–532; Badura *et al.* 2010, pp. 389, 409–410).

To sum up, it should be emphasised that the first stone defence system in Wrocław was a very modern and revolutionary structure. The Wrocław defensive walls became the first such investment in Piast Poland. It shows numerous formal and chronological similarities to the fortifications of the castles in Wrocław on Ostrów Tumski, in Legnica, in Rokitnica and in Opole on Ostrówek. These systems were built in the main framework during the first two thirds of the 13<sup>th</sup> century (Chorowska 2003; 2014). However, the costly and long-term investment of building the first brick-and-stone fortifications in Wrocław due to the city's area expanding in 1261 failed to solve its defence issues for a long time, with these fortifications losing much of their significance as early as in the 14<sup>th</sup> century.

### *Defensive Wrocław: a summarisation attempt*

Owing to primarily post-war archaeological and architectural research, we were able to learn about the above-presented defensive system of Wrocław in the Middle Ages and early modern times, which was practically entirely eliminated during the Napoleonic wars. These studies intensified particularly after 1989, i.e., in the years of Poland's political transformations and the great investment boom. The system of embankments and fortifications in Wrocław belonged to the most extensive and

complicated urban defensive systems in this part of Europe. It evokes associations with the fortifications of distant European centres such as Cologne, Nuremberg, or Brussels. It was never a uniform entity, as it was built over a vast area in numerous phases and stages, with the participation and efforts of various investors, and for various purposes.

In the early Middle Ages, its main elements were two hillforts that operated with much success (the 10<sup>th</sup> century and the beginning of the 13<sup>th</sup> century), which included outer baileys located on Ostrów Tumski and equipped with a system of extensive wooden and earth ramparts in a hook-and-grate structure. While the chronology of the first (“eastern”) hillfort could point to the Bohemian founders, the second (“western”) one was built in the times of the Monarchy of the First Piasts, probably on the initiative of Mieszko I. In the second half of the 12<sup>th</sup> century, in the place of the “western” hillfort, the construction of a brick castle of Duke Bolesław I the Tall (1163–1201) began, albeit later substantially remodelled by the Silesian Henrys (1201–1241). Both these complexes were pioneering investments in this area; at the same time, their plan was a reference to the achievements of important European centres, that is, usually, those remaining in the sphere of influence of the emperors of the Hohenstaufen dynasty, but those more distant, too. The southern direction, which was connected with Frederick Barbarossa’s Milan expedition and the western direction, covering the Rhineland, Alsace, Lorraine, and the Netherlands, seem to be particularly significant.

A polycentric structure similar to Hildesheim, Prague, or Kraków and other large early centres of Central and Eastern Europe emerging north of Limes, the early urban Wrocław agglomeration had no unified defensive system. However, at least some of its elements (the market and the monastery of Ołbin?/the settlement of German guests near Saint Mary Magdalene Church?) had their own fortifications in the form of defensive and anti-flood ramparts, or even moats.

During the transformations of the Wrocław agglomeration into a municipality (ca. 1211–1232, 1241–1242, and 1261), its borders (in Latin: *fossata prime locacionis*), which took the form of an extensive system of sand, earth, and fascine ramparts and moats, probably also with defensive and anti-flood functions, were designated. They included the so-called Greater Wrocław within the boundaries described in the founding model by Rozpędowski. We can attribute their construction to the Walloons or the Cistercians who acted on the initiative of the Silesian Henrys. In the 1230s at the latest, the first urban and legal regulations were introduced, as a result of which the current Market Square was created and the city acquired a characteristic checkerboard-block spatial layout. At the same time, in the so-called left-bank ducal areas, the construction of the second Wrocław castle began. It was supposed to guard the new Oder crossing and the extensive Piast residence that was connected to the monastic settlement. In its plan, we can notice not only the influence of Prague models (*Pražský hrad*

and *Hradčany*) but also symbolic references to the capital city of Kraków and the Wawel residence.

The catastrophe of the 1241 Mongol invasion along with the death of Henry the Pious resulted in, firstly, the destruction of Wrocław, an urban collapse, and the failure of the original vision of the “ducal” city of the Silesian Henrys. Secondly, a long period of political and economic decline, which for some time forced the Piasts to resign from the unification aspirations and the fight for the throne, as well as numerous concessions to the bourgeoisie. Thirdly, a significant influx of colonists from German countries who sought to transform the centre into a municipal city with its own local government. Moreover, in the years 1246–1278, Silesia was drawn into a long-lasting war over the inheritance of the Babenberg family. In 1254, at a meeting in Wrocław, important systemic decisions were made about the construction of new fortifications in Silesia; we can find source confirmation dating back to in 1257 of the construction of defensive walls, probably castle walls, on Ostrów Tumski. They were connected to the architecture of a completely new defensive seat built by Henry III the White and Henry IV Probus, who was the closest to the unification of Poland in 1290. Its spatial and functional plans bear clear references to Charlemagne’s Aachen residence. However, after Probus’s death, the building passed into the hands of church hierarchs and a long-term process of its transformation to new functions began.

Probably in the same turbulent years, i.e., 1254–1261, the city whose area had been reduced was enclosed by a brick defensive wall with shell fortified towers that were extended before 1291 with two more defensive perimeters and a moat, thus forming a system of outer baileys and zwingers. It is likely that this system was modelled on the fortifications of Constantinople, which had become known to the Latins in the years 1204–1261, and could have been inspired by the experiences gained during the military expeditions to the Holy Land. It was created under the rule of Henry III the White and Henry IV Probus, and hastily completed by Henry V the Fat in 1291 by letting the waters of the Oława River into the city moat.

The founding of Wrocław under Magdeburg Law in 1261 (the third founding) expanded the city from the years 1241/1242 to its former borders, eliminating social and economic consequences of the urban collapse after the Mongol invasion. However, its permanent trace was the division into the “inner” and “outer” city, still visible in the 19<sup>th</sup> century, and the layout of the “internal ring road of the Old Town” in the form of Kazimierza Wielkiego Street. Despite the apparent similarity of the spatial development of Wrocław to, for instance, Cologne, which was measured by successive defensive systems covering the newly incorporated urban areas, it should be remembered that in the case of the capital city of Silesia, it was not without violent turmoil and crises which destroyed previous urban planning actions and led to the retreat of settlements. These events are evidenced also by the vast “secondary” suburbs.

Henry IV Probus was also responsible for the construction of the third Wrocław castle discovered under the City Arsenal. A vastly extensive and architecturally mature building that referred to the so-called Central European castellum, it has never been completed, unfortunately. Probably soon after 1261, the possibility of strengthening the expanded city was also considered, especially since there was already a strongly settled sand, earth, and fascine rampart from the times of the Silesian Henrys. As the city records suggest, the investment in the construction of the external defensive walls in the fortified tower system began in 1299.

## References

- Arszyński M., 1995, *Budownictwo warowne zakonu krzyżackiego w Prusach (1230–1454)*, Toruń.
- Architektura, 1995a, *Architektura Wrocławia*, vol. 1: *Dom*, ed. J. Rozpędowski, Wrocław.
- Architektura, 1995b, *Architektura Wrocławia*, vol. 2: *Urbanistyka*, ed. J. Rozpędowski, Wrocław.
- Architektura, 1997, *Architektura Wrocławia*, vol. 3: *Świątynia*, ed. J. Rozpędowski, Wrocław.
- Architektura, 1998, *Architektura Wrocławia*, vol. 4: *Gmach*, ed. J. Rozpędowski, Wrocław.
- Atlas architektury, 1997, *Atlas architektury Wrocławia*, vol. 1, ed. J. Harasimowicz, Wrocław.
- Atlas architektury, 1998, *Atlas architektury Wrocławia*, vol. 2, ed. J. Harasimowicz, Wrocław.
- Atlas historyczny, 2001, *Atlas historyczny miast polskich*, vol. 4: *Śląsk*, issue 1: *Wrocław*, ed. M. Młynarska-Kaletynowa, Wrocław.
- Atlas historyczny, 2017, *Atlas historyczny miast polskich*, vol. 4: *Śląsk*, ed. M. Młynarska-Kaletynowa, issue 13: *Wrocław*, eds. R. Eysymontt, M. Goliński, Wrocław.
- Badura J., 2009, Powierzchnia przedlokacyjna w rejonie ulic Zamkowej i Modrzejewskiej we Wrocławiu, typescript in the archives of Akme – Zdzisław Wiśniewski Sp. z o.o., Wrocław.
- Badura J., Bilińska A., Broda M., Eysymontt R., Kacprzak M., Kastek T., Kitliński B., Koszacka A., Krzywka M., Kwaśnica K., Limisiewicz A., Mruczek R., Stefanowicz M., Witkowska W., 2009, Ratownicze badania archeologiczne dla Inwestycji pn. Budowa sali koncertowej przy Placu Wolności oraz parkingu podziemnego wraz z zagospodarowaniem terenu Placu Wolności we Wrocławiu, typescript in the archives of the Provincial Conservator of Monuments in Wrocław, Wrocław.
- Badura J., Kastek T.A., 2018, *Topograficzne uwarunkowania lokalizacji zamków wrocławskich*, *Archaeologia Historica Polona*, vol. 26, pp. 135–162.
- Badura J., Kastek T., Mruczek R., Stefanowicz M., 2010, *Z najnowszych badań obwarowań i fortyfikacji Wrocławia*, cz. 1: *Pas południowy w rejonie obecnego Placu Wolności*, *Śląskie Sprawozdania Archeologiczne*, vol. 52, pp. 365–425.
- Bilińska A., Bykowski K., Cholewa P., Fabisiak W., Guszpit P., Kitliński B., Limisiewicz A., Mruczek R., Płonka T., Roczek M., Stefanowicz M., Wiśniewski A., 2007, Wstępne sprawozdanie z ratowniczych badań archeologiczno-architektonicznych w obrębie kwartału zabudowy pomiędzy ulicami: Krawiecką, Wita Stwosza, bł. Czesława

- i Oławską na Starym Mieście we Wrocławiu, typescript in the archives of the Provincial Conservator of Monuments in Wrocław, Wrocław.
- Bendefy L., 1937, *Fontes authentici (1235–1238), Fr. Iuliani Illustrantes*, Archivum Europae Centro-Orientalis, vol. 3, pp. 21–25.
- Bimler K., 1933, *Schlesischen Burgen und Renaissanceschlösser. Die ehemalige Kaiserburg im Breslau*, Breslau.
- Bimler K., 1940, *Die schlesischen massiven Wehrbauten*, vol. 1: Fürstentum Breslau. Kreise Breslau, Neumarkt, Namslau, Breslau.
- Bobková L., 2005, *Prezentace královského majestátu v korunních zemích za vlády králů Jana a Karla*, [in:] *Lesk královského majestátu ve středověku. Pocta Prof. PhDr. Františku Kavkovi, CSc. K nedožitým 85. Narozeninám*, eds. L. Bobková, M. Holá, Praha–Litomyšl, pp. 61–80.
- Boguszewicz A., 1998, *Przemiany w XIII-wiecznym śląskim budownictwie obronnym*, [in:] *Kultura średniowiecznego Śląska i Czech. „Rewolucja” XIII wieku*, ed. K. Wachowski, Wrocław, pp. 97–111.
- Boguszewicz A., 2001, *Nienawiść Rudego Smoka do Bolesława a geneza zamków romańskich na Śląsku*, [in:] *Zamek i dwór w średniowieczu od XI do XV wieku*, ed. J. Wiesiołowski, Poznań, pp. 18–23.
- Boguszewicz A., 2010, *Corona Silesiae. Zamki Piastów fürstenberskich na południowym pograniczu księstwa jaworskiego, świdnickiego i ziębickiego do połowy XIV wieku*, Wrocław.
- BUB., 1870, *Breslauer Urkundenbuch*, ed. G. Korn, Breslau.
- Bukowski M., 1958, *Ratusz wrocławski na tle urbanistycznego rozwoju miasta*, [in:] *Ratusz wrocławski*, eds. M. Bukowski, M. Zlat, Wrocław, pp. 9–194.
- Burgemeister L., 1902, *Die ehemalige kaiserliche Burg zu Breslau*, Zeitschrift des Vereins für Geschichte und Alterthum Schlesiens, vol. 36, no. 2, pp. 271–317.
- Burgemeister L., 1930, *Die Kunstdenkmäler der Stadt Breslau*, 1, Breslau.
- CDS, 1875, *Codex Diplomaticus Silesiae*, vol. 7: *Regesten zur schlesischen Geschichte*, part 2: *Bis zum Jahre 1280*, ed. C. Grünhagen, Breslau.
- Cetwiński M., 1994, *Post octavam Pasche. Najazd „Tatarów” z 1241 roku a kalendarz liturgiczny*, [in:] *Bitwa legnicka. Historia i tradycja*, ed. W. Korta, Wrocław–Warszawa, pp. 200–220.
- Cetwiński M., 2001, *Kasztelanowie i kasztelanie na Śląsku w XIII i XIV wieku*, [in:] M. Cetwiński, *Śląski tygiel. Studia z dziejów polskiego średniowiecza*, Częstochowa, pp. 255–275.
- Chorowska M., 2003, *Rezydencje średniowieczne na Śląsku. Zamki, pałace, wieże mieszkalne*, Wrocław.
- Chorowska M., 2010a, *Regularna sieć ulic. Powstanie i przemiany do początku XIV w.*, [in:] *Ulice średniowiecznego Wrocławia*, eds. J. Piekalski, K. Wachowski, *Wratislavia Antiqua*, 11, Wrocław, pp. 67–89.
- Chorowska M., 2010b, *Parcelacja Głogowa na tle lokacji miejskich na Śląsku*, [in:] *Glogovia Maior: Wielki Głogów między blaskiem dziejów i cieniem ruin*, eds. B. Czechowicz, M. Konopnicka, Głogów–Zielona Góra, pp. 123–138.



- Chorowska M., 2014, *Dylematy wokół zamku książęcego na Ostrowie Tumskim we Wrocławiu w świetle badań archeologiczno-architektonicznych z lat 2011–2012 i 2014*, [in:] *Katedra, ratusz, dwór. Wielkie miasta a władza świecka i kościelna w kulturze średniowiecznej Europy*, Prace Komisji Historii Sztuki, vol. 40, Poznań, pp. 137–163.
- Chorowska M., 2015, *Zamki, dwory i pałace na Dolnym Śląsku w ćwierć wieku od transformacji ustrojowej 1989 r.*, [in:] *Past for the future*, vol. 1: *Przeszłość dla przyszłości*, ed. A. Kadłuczka, Kraków, pp. 7–17.
- Chorowska M., 2017a, *Wrocławskie pałace śląskich Henryków – najmłodsze palatia na terenie Polski?*, [in:] *Gemma Gemmarum. Studia dedykowane Profesor Hannie Kočce-Krenz*, ed. A. Różański, Poznań, pp. 925–951.
- Chorowska M., 2017b, *Zamek książęcy na Ostrowie Tumskim – komentarz do planszy*, [in:] *Atlas historyczny miast polskich*, vol. 4: *Śląsk*, ed. M. Młynarska-Kaletynowa, issue 13, parts 1–2: Wrocław, eds. R. Eysymontt, M. Goliński, Wrocław, pp. 42–43, board 6.
- Chorowska M., 2019, *Zamek Piastowski na Ostrowie Tumskim we Wrocławiu*, [w:] *Przyroda, działalność, człowieka, Dolny Śląsk*, eds. E. Dobierzewska-Mozrzyńskas, A. Jezierski, Wrocław, pp. 539–557.
- Chorowska M., Caban M., 2015, *The origins of the brick architecture in Silesia. Brick: size, composition, chronology*, [in:] *Forum urbes medii aevi IX./1–2. Bricks and building ceramics in medieval and modern urban architecture of Central Europe*, ed. Z. Měřínský, Brno, pp. 8–19.
- Chorowska M., Caban M., Bartz W., 2015, *Bricks from medieval castle in Ostrów Tumski (Wrocław): case study*, [in:] *Forum urbes medii aevi IX./1–2. Bricks and building ceramics in medieval and modern urban architecture of Central Europe*, ed. Z. Měřínský, Brno, pp. 138–153.
- Chorowska M., Lasota C., 2013, *Kaplica czy wieża?: interpretacja najstarszych relikwów zamku na Ostrowie Tumskim we Wrocławiu w świetle badań z lat 2011/2012 oraz analogii europejskich*, [in:] *III Forum Architecturae Poloniae Medievalis*, ed. K. Stala, Kraków, pp. 31–49.
- Chorowska M., Mruczek R., 2022, *Left-bank Castle in Wrocław. Part 1: From the seat of the Piasts to an imperial residence*, *Archaeologia Historica Polona*, vol. 30, pp. 99–130.
- Chorowska M., Mruczek R., 2023, *Silesian landscape with a castle in the background. A Wrocław donjon of the prince-crusader*, *Architectus*, no. 1, pp. 3–16.
- Czechowicz B., 2011, *Dvě centra v Koruně. Čechy a Slezsko na cestách integrace a rozkolu v kontextu ideologie, politiky a umění (1348–1458)*, České Budějovice.
- Czechowicz B., 2013, *Böhmische Erbfolge und Breslau in den Jahren 1348–1361. Kunst und Geschichte auf Wegen und Holzwegen der Historiographie*, Červený Kostelec.
- Czechowicz B., 2015, *Z Biblią w tle. Prace z historii kultury Europy Środkowej*, Wrocław.
- Czerner O., 1977, *Wrocław z lotu ptaka*, Wrocław.
- Dąbrowski F., 2007, *Studia nad administracją kasztelańską Polski XIII wieku*, Warszawa.
- Durdík T., 1994, *Kastellburgen des 13. Jahrhunderts in Mitteleuropa*, Praha,
- Eysymontt R., 2009, *Kod genetyczny miasta. Średniowieczne miasta lokacyjne Dolnego Śląska na tle urbanistyki europejskiej*, Wrocław.

- Eysymontt R., 2011, *Rozwój przestrzenny i urbanistyczny miasta do połowy XIX wieku*, [in:] *Leksykon architektury Wrocławia*, eds. R. Eysymontt et al., Wrocław, pp. 17–30.
- Gawlas S., 2005, *Przełom lokacyjny w dziejach miast środkowoeuropejskich*, [in:] *Civitas Posnaniensis. Studia z dziejów średniowiecznego Poznania*, eds. Z. Kurnatowska, T. Jurek, Poznań, pp. 133–162.
- Goerlitz T., 1935, *Eine Magdeburger Rechtsmitteilung für Breslau vor 1241? Gleichzeitig eine Untersuchung zum Magdeburg-Goldberger Rechte*, Beiträge zur Geschichte der Stadt Breslau, 1, pp. 92–105.
- Goliński M., 1986, *Fortyfikacje miejskie Wrocławia XIII–XIV w.*, Studia i Materiały do Historii Wojskowości, vol. 29, pp. 23–41.
- Goliński M., 1997, *Socjotopografia późnośredniowiecznego Wrocławia (przestrzeń – podatnicy – rzemiosło)*, Acta Universitatis Wratislaviensis, no. 2010, Historia, 134, Wrocław.
- Goliński M., 2001, *Wrocław od połowy XIII do początków XVI wieku*, [in:] *Historia Wrocławia*, vol. 1: *Od pradziejów do końca czasów habsburskich*, eds. C. Buško et al., Wrocław, pp. 95–220.
- Goliński M., 2005, *Miasta a polityka gospodarcza Henryka IV Probusa*, [in:] *Śląsk w czasach Henryka IV Prawego*, ed. K. Wachowski, Wratislavia Antiqua, 8, Wrocław, pp. 49–62.
- Guerquin B., 1957, *Zamki śląskie*, Warszawa.
- Guerquin B., 1974, *Zamki w Polsce*, Warszawa.
- Guerquin B., 1984, *Zamki w Polsce*, 2<sup>nd</sup> edition, Warszawa.
- Holá M., 2005, *Vratislavští hejtmáni. Reprezentanti královského majestátu prvních Lucemburků na českém trůně (1335–1378)*, [in:] *Lesk královského majestátu ve středověku. Pocta Prof. PhDr. Františku Kavkovi, CSc. K nedožitým 85. Narozeninám*, eds. L. Bobková, M. Holá, Praha–Litomyšl, pp. 161–176.
- Holá M., 2007, *“Fuit honorifice susceptus”. Holdovací cesty českých panovníků do Vratislavi v pozdním středověku*, [in:] *Korunní země v dějinách českého státu, 3: Rezidence a správní sídla v zemích České koruny ve 14.–17. století. Sborník příspěvků z mezinárodního kolokvia konaného ve dnech 29.–31. března 2006 v Clam-Gallasově paláci v Praze*, eds. L. Bobková, J. Konvičná, Praha, pp. 273–299.
- Holá M., 2008, *“Curia imperialis”. K možnosti ubytování dvora českých králů ve Vratislavi a k funkcím jejich sídel (1335–1526)*, [in:] *Dvory a rezidence ve středověku, 2: Skladba a kultura středověké společnosti*, eds. D. Dvořáková-Malá, J. Zelenka, Praha, pp. 169–196.
- Holá M., 2012, *Holdovací cesty českých panovníků do Vratislavi v pozdním středověku a raném novověku (1437–1617)*, Praha.
- Jackson P., 2007, *Mongołowie i Zachód. Podbój Azji i Europy, tajemnice najazdów na Polskę, imperium Tamerlana*, Warszawa.
- Jasiński T., 1988, *Przerwany hejnał*, [in:] *Dzieje narodu i państwa polskiego*, vol. 1–2, Kraków.
- Jureczko A., 1986, *Henryk III Biały. Książę wrocławski (1247–1266)*, Kraków.
- Jurek T., 2006, *Dziedzic Królestwa Polskiego książę głogowski Henryk (1274–1309)*, Kraków.
- Kastek T.A., 2010, *Obwarowania Wrocławia pierwszej lokacji? Badania na placu Teatralnym, ulicy Świdnickiej i Heleny Modrzejewskiej*, [in:] *Non solum villae. Księga jubile-*

- uszowa ofiarowana profesorowi Stanisławowi Medekszy, ed. J. Kościuk, Wrocław, pp. 361–378.
- Kastek T., Krzywka M., Mruczek R., 2013, *Wyniki badań archeologiczno-architektonicznych na terenie zamku piastowskiego na Ostrówku w Opolu w sezonach 2011–2012*, Opolski Informator Konserwatorski, no. 11, pp. 121–130.
- Kastek T., Mruczek R., 2016, *Średniowieczne obwarowania i fortyfikacje Wrocławia w świetle odkryć w rejonie Narodowego Forum Muzyki*, [in:] *Centrum staromiejskie we Wrocławiu*, eds. T. Głowiński, H. Okólska, Wrocław, pp. 10–36.
- Kaźmierczyk J., 1957, *Z badań archeologicznych Wrocławia w roku 1956*, Archeologia Śląska, vol. 1, pp. 192–193.
- Kaźmierczyk J., 1959a, *Sprawozdanie z badań archeologicznych Wrocławia za rok 1957*, Archeologia Śląska, vol. 3, pp. 109–130.
- Kaźmierczyk J., 1959b, *Wyniki badań wykopaliskowych na dziedzińcu uniwersyteckim we Wrocławiu*, Archeologia Śląska, vol. 2, pp. 223–245.
- Kaźmierczyk J., 1964, *Badania archeologiczne w rejonie pl. Nowy Targ we Wrocławiu w 1962 r.*, *Sprawozdania Archeologiczne*, vol. 16, pp. 232–242.
- Kaźmierczyk J., 1965, *Z badań nad kształtowaniem się wczesnośredniowiecznego ośrodka miejskiego na lewym brzegu Odry we Wrocławiu*, *Sobótka*, 20, no. 2, pp. 137–169.
- Kaźmierczyk J., 1966a, *Wrocław lewobrzeżny we wczesnym średniowieczu*, part 1, Wrocław.
- Kaźmierczyk J., 1966b, *Z badań nad grodami i miastami wczesnego średniowiecza na Śląsku*, *Archeologia Polski*, vol. 10 (2), pp. 655–696.
- Kaźmierczyk J., 1970, *Wrocław lewobrzeżny we wczesnym średniowieczu*, part. 2, Wrocław.
- Kaźmierczyk J., 1991, *Ku początkom Wrocławia*, part 1: *Warsztat budowlany i kultura mieszkalna Ostrowa Tumskiego od X do połowy XI wieku*, Wrocław.
- Kaźmierczyk J., 1993, *Ku początkom Wrocławia*, part 2: *Warsztat budowlany i kultura mieszkalna Ostrowa Tumskiego od połowy XI do połowy XIII wieku*, Wrocław.
- Kaźmierczyk J., 1995, *Ku początkom Wrocławia*, part 3: *Gród na Ostrowie Tumskim w X–XIII wieku*, Wrocław.
- Kaźmierczyk J., Lodowski J., 1963, *Z badań w rejonie placu Nowy Targ we Wrocławiu w latach 1960–1961*, *Sprawozdania Archeologiczne*, vol. 15, pp. 272–287.
- KSŚl., 1956, *Codex diplomaticus nec non epistolaris Silesiae. Kodeks dyplomatyczny Śląska*, vol. 1, eds. K. Maleczyński, A. Skowrońska, Wrocław.
- KDŚl., 1959, *Codex diplomaticus nec non epistolaris Silesiae. Kodeks dyplomatyczny Śląska*, vol. 2, eds. K. Maleczyński, A. Skowrońska, Wrocław.
- KDŚl., 1964, *Codex diplomaticus nec non epistolaris Silesiae. Kodeks dyplomatyczny Śląska*, vol. 3., ed. K. Maleczyński, Wrocław.
- Kitliński B., Guszpit P., Mruczek R., Stefanowicz M., 2007, *Ratownicze badania archeologiczno-architektoniczne w obrębie ulicy Oławskiej na Starym Mieście we Wrocławiu*, typescript in the archives of Akme – Zdzisław Wiśniewski Sp. z o.o., Wrocław.
- Kitliński B., Limisiewicz A., Mruczek R., 2004, *Rozwój osadnictwa w strefie fortyfikacji miejskich w świetle badań parceli przy ul. Białoskórniczej 1 we Wrocławiu*, *Śląskie Sprawozdania Archeologiczne*, vol. 46, pp. 151–173.

- Klose S.B., 1936, *Architektura Wratislaviensis*, [in:] *Quellen zur schlesischen Kunstgeschichte*, 1, ed. K. Bimler, Breslau, pp. 3–32.
- Kmiecik P., Szwed R., 2021, *The second left-bank castle in Wrocław in the light of the latest archaeological and architectural research*. *Archaeologia Historica Polona*, vol. 29, pp. 43–67.
- Konczewski P., Lasota C., Piekalski J., 2007, *Zamek książęcy na lewym brzegu Odry we Wrocławiu w świetle badań z lat 2005–2006*, *Śląskie Sprawozdania Archeologiczne*, vol. 49, pp. 225–254.
- Konczewski P., Lasota C., Piekalski J., 2014, *The Town Castle in Wrocław*, [in:] *Medieval Europe in motion. In honour of Jan Klápště*, eds. I. Boháčová, P. Sommer, Praha, pp. 201–211.
- Konczewski P., Mruczek R., Piekalski J., 2010, *The fortifications of medieval and post-medieval Wrocław/Breslau*, [in:] *Lübecker Kolloquium zur Stadtarchäologie im Hanseraum VII: die Befestigungen*, eds. M. Gläser et al., Lübeck, pp. 597–614.
- Korta W., 1994, *Problemy bitwy legnickiej i stan badań*, [in:] *Bitwa legnicka. Historia i tradycja*, ed. W. Korta, Wrocław–Warszawa, pp. 7–33.
- Kościuk J., 1987, *Studium historyczne i badania w pasie dawnych fortyfikacji na obszarze Starego Miasta we Wrocławiu*, Wrocław.
- Kozaczewska-Golasz H., 1995, *Wrocław w latach 1204–1263*, [in:] *Architektura Wrocławia*, vol. 2: *Urbanistyka do roku 1945*, ed. J. Rozpędowski, Wrocław, pp. 53–64.
- Kozaczewski T., 1957, *Zamek piastowski na Ostrówku w Opolu*. *Komunikat*, *Zeszyty Naukowe Instytutu Historii Architektury, Sztuki i Techniki Politechniki Wrocławskiej*, 16, *Architektura*, 2, pp. 65–66.
- Kozaczewski T., 1990, *Wiejskie kościoły parafialne XIII wieku na Śląsku (miejscowości B–G)*, Wrocław.
- Kutzner M., 1994, *Czy bitwa pod Legnicą stanowi istotną cezurę w rozwoju śląskiej sztuki wieku XIII?*, [in:] *Bitwa legnicka. Historia i tradycja*, ed. W. Korta, Wrocław–Warszawa, pp. 247–275.
- Lasota C., Wiśniewski Z., 1998, *Badania fortyfikacji miejskich Wrocławia z XIII w.*, *Silesia Antiqua*, vol. 39, pp. 9–30.
- Legut-Pintal M., Mruczek R., 2022, *The inner perimeter of the town fortifications and its role in the townscape: a case study of Wrocław in the transition period from the Middle Ages to modernity*, *Archaeologia Historica Polona*, vol. 30, pp. 131–156.
- Leksykon architektury, 2011, *Leksykon architektury Wrocławia*, eds. R. Eysymont et al., Wrocław.
- Liber foundationis, 1991, *Liber foundationis claustris sancte Marie Virginis in Heinrichow czyli Księga Henrykowska*, eds. R. Grodecki, J. and J. Matuszewscy, Wrocław.
- Limisiewicz A., Mruczek R., 2010, *Fara św. Marii Magdaleny na tle przemian przestrzennych wczesnego Wrocławia*, [in:] *Śródmiejska katedra: kościół św. Marii Magdaleny w dziejach i kulturze Wrocławia*, ed. B. Czechowicz, Wrocław, pp. 55–136.
- Loesch von H., 1928, (review) *Josef Pfitzner, Besiedlungs-, Verfassungs- und Verwaltungsgeschichte des Breslauer Bistumslandes 1, Bis zum Beginne der böhmischen Herrschaft*, *Prager Studien aus dem Gebiete der Geschichtswissenschaft*, herausgegeben von H. Hirsch, S. Steinherz, O. Weber, Reichenberg in Böhmen 1926, *Sudetendeutscher Verlag Franz Kraus, Zeitschrift der Savigny-Stiftung für Rechtsgeschichte, Germanistische Abteilung*, 48, pp. 572–589.

- Luchs H., 1863, *Die ehemalige kaiserliche Burg zu Breslau mit 3 Abbildungen nach Darstellung aus dem Jahren 1562, 1591, 1668, Programm der Toechterschule zu Maria-Magdalena*, Breslau.
- Małachowicz E., 1972, *Romańska kaplica św. Marcina na zamku wrocławskim na Ostrowiu*, Kwartalnik Architektury i Urbanistyki, 17 (2), pp. 85–102.
- Małachowicz E., 1973, *Romański zamek na Ostrowie we Wrocławiu*, Kwartalnik Architektury i Urbanistyki, 18 (3–4), pp. 189–206.
- Małachowicz E., 1974, *Gotycki zamek na Ostrowiu we Wrocławiu*, Kwartalnik Architektury i Urbanistyki, 19 (2), pp. 105–133.
- Małachowicz E., 1975, *Bastejowe fortyfikacje Wrocławia*, [in:] *Bastejowe fortyfikacje w Polsce*, ed. E. Małachowicz, Prace Naukowe Instytutu Historii Architektury Sztuki i Techniki Politechniki Wrocławskiej, no. 9, Studies and Materials, no. 3, Wrocław, pp. 99–121.
- Małachowicz E., 1978, *Zamki wrocławskie*, Prace Naukowe Instytutu Historii Architektury, Sztuki i Techniki Politechniki Wrocławskiej, no. 12, Studia i Materiały, no. 5, Wrocław, pp. 59–76.
- Małachowicz E., 1981, *Wrocław na wyspach*, Wrocław.
- Małachowicz E., 1988a, *Ostrów Tumski i wyspy we Wrocławiu*, Warszawa.
- Małachowicz E., 1988b, *Zamek piastowski na Ostrowie Tumskim we Wrocławiu*, Kalendarz Wrocławski 1988, pp. 240–244.
- Małachowicz E., 1991a, *Wrocławski zamek książęcy na Ostrowie*, Kwartalnik Architektury i Urbanistyki, 36 (3), pp. 187–206.
- Małachowicz E., 1991b, *Wrocławski zamek Piastów na Ostrowie*, Śląski Labirynt Krajoznawczy, 3, pp. 67–87.
- Małachowicz E., 1992, *Wrocław na wyspach. Rozwój urbanistyczny i architektoniczny*, Wrocław.
- Małachowicz E., 1993, *Wrocławski zamek książęcy i kolegiata św. Krzyża na Ostrowie*, Wrocław.
- Małachowicz E., 1994, *Książęce rezydencje, fundacje i mauzolea w lewobrzeżnym Wrocławiu*, Wrocław.
- Małachowicz E., 2005, *Początki architektury ceglanej na Śląsku*, [in:] *Nie tylko zamki. Szkice ofiarowane Profesorowi Jerzemu Rozpędowskiemu w siedemdziesiątą piątą rocznicę urodzin*, eds. E. Różycka, M. Chorowska, Wrocław, pp. 263–268.
- Małachowicz E., Lasota C., 1987, *Pierwsza kaplica zamku wrocławskiego na Ostrowie*, Kwartalnik Architektury i Urbanistyki, 32 (1), pp. 3–11.
- Małachowicz M., 2005, *Ceramika budowlana średniowiecznego Wrocławia*, [in:] *Wschodnia strefa Starego Miasta we Wrocławiu w XII–XIV wieku. Badania na Placu Nowy Targ*, ed. C. Buško, Wrocław, pp. 111–134.
- Mika N., 2008, *Walka o spadek po Babenbergach 1246–1278*, Racibórz.
- Młynarska-Kaletynowa M., 1986, *Wrocław w XII–XIII wieku. Przemiany społeczne i osadnicze*, Wrocław.
- Młynarska-Kaletynowa M., 1992, *Najdawniejszy Wrocław*, Wrocław.
- Młynarska-Kaletynowa M., 1995, *Przemiany przestrzenne Wrocławia w wiekach XII–XIII*, [in:] *Architektura Wrocławia*, vol. 2: *Urbanistyka*, ed. J. Rozpędowski, Wrocław, pp. 9–28.

- Młynarska-Kaletynowa M., 1997, *Kościół Św. Marii Egipcjanki we Wrocławiu*, [in:] *Architektura Wrocławia*, vol. 3: *Świątynia*, ed. J. Rozpędowski, Wrocław, pp. 23–30.
- Morelowski M., 1954, *Rozwój urbanistyki Wrocławia przed kolonizacją z lat 1241–1242*, Sprawozdania Wrocławskiego Towarzystwa Naukowego, 6, 1951 – Dodatek 4, Wrocław.
- Morelowski M., 1955, *Wykopaliska na terenie lewobrzeżnego zamku Piastów we Wrocławiu*, *Ochrona Zabytków*, no. 1, pp. 10–16.
- MPH, 1872, *Monumenta Poloniae Historica*, vol. 2, ed. A. Bielowski, Lwów.
- Mruczek R., 2000, *Kurzy Targ we Wrocławiu. Uwagi o pierwotnym planie miasta*, [in:] *Centrum średniowiecznego miasta. Wrocław a Europa środkowa*, eds. J. Piekalski, K. Wachowski, *Wratislavia Antiqua*, 2, Wrocław, pp. 259–278.
- Mruczek R., 2003, *Zamki wieżowe na Śląsku w średniowieczu*, typescript of doctoral thesis in the Faculty of Architecture of Wrocław University of Science and Technology, Wrocław.
- Mruczek R., 2005, *Wieloboczny bergfried zamku we Wleniu na tle architektury śląskiej i europejskiej*, [in:] *Nie tylko zamki. Szkice ofiarowane Profesorowi Jerzemu Rozpędowskiemu w siedemdziesiątą piątą rocznicę urodzin*, eds. E. Różycka, M. Chorowska, Wrocław, pp. 55–71.
- Mruczek R., 2012, *Wczesne zamki śląskie*, [in:] *Nie tylko trony. Księga jubileuszowa ofiarowana profesorowi Ernestowi Niemczykowi*, eds. J.L. Dobesz, A. Gryglewska, M.M. Rudnicka-Bogusz, Wrocław, pp. 125–150.
- Mruczek R., 2018, *Bergfried, Donjon, Eigenkirche: miejsce zamków śląskich w architekturze europejskiej*, *Archaeologia Historica Polona*, vol. 26, pp. 101–134.
- Mruczek R., 2019a, *Archeologia architektury Wrocławia: metody nieinwazyjne w badaniach nad warsztatem budowlanym przełomu średniowiecza i nowożytności*, *Archaeologia Historica Polona*, vol. 27, pp. 181–217.
- Mruczek R., 2019b, *Średniowieczne miasto i zamek na Śląsku: urbanistyka i architektura obronna*, [in:] *Dziedzictwo architektoniczne: badania oraz adaptacje budowli sakralnych i obronnych*, ed. E. Łużyńska, Wrocław, pp. 79–94.
- Mruczek R., Caban M., Kastek T., 2015a, *Process of building outside fortifications of Wrocław in the light research in the vicinity of city Arsenal*, [in:] *Forum urbes medii aevi IX./1–2. Bricks and building ceramics in medieval and modern urban architecture of Central Europe*, ed. Z. Měřínský, Brno, pp. 70–79.
- Mruczek R., Caban M., Kastek T., 2015b, *Wrocław construction workshop in the 15<sup>th</sup> and 16<sup>th</sup> centuries. Results and prospects of new research*, [in:] *Forum urbes medii aevi IX./1–2. Bricks and building ceramics in medieval and modern urban architecture of Central Europe*, ed. Z. Měřínský, Brno, pp. 94–105.
- Mruczek R., Kastek T., 2024, *The issue of limitatio in early Silesian urban planning*, *Architectus*, no. 1, pp. 39–48.
- Mruczek R., Nowakowski D., Piekalski J., Stefanowicz M., Wachowski K., 2003, *Sprawozdanie z ratowniczych badań archeologicznych przeprowadzonych na dziedzińcu Uniwersytetu w 2002–2003 r.*, typescript in the archives of the Provincial Conservator of Monuments in Wrocław, Wrocław.
- Mruczek R., Nowakowski D., Stefanowicz M., 2005, *Zamek lewobrzeżny we Wrocławiu w świetle nowszych badań*, *Śląskie Sprawozdania Archeologiczne*, vol. 47, pp. 175–191.

- Mruczek R., Stefanowicz M., 2000, *Badania archeologiczno-architektoniczne w rejonie zamku lewobrzeżnego we Wrocławiu w 1999 roku*, Śląskie Sprawozdania Archeologiczne, vol. 42, pp. 237–251.
- Mruczek R., Stefanowicz M., 2010, *Południowy pas obwarowań i fortyfikacji Wrocławia w rejonie obecnego Pl. Wolności na tle przemian przestrzennych i prawnych miasta średniowiecznego i nowożytnego*, [in:] *Non solum villae. Księga jubileuszowa ofiarowana profesorowi Stanisławowi Medekszy*, ed. J. Kościuk, Wrocław, pp. 401–454.
- Nicolle D., Szpakowski W., 2008, *Katka 1223. Najazd Mongołów Czyngis-chana na Ruś*, Kampanie, vol. 3, Kraków.
- Nowakowski D., 2023, *Zamki i dwory księstwa wrocławskiego od XIII do XVI wieku*, Wrocław.
- Pankiewicz A., 2015, *Stan badań nad konstrukcjami obronnymi wrocławskiego Ostrowa Tumskiego*, [in:] *Kształtowanie się grodu na wrocławskim Ostrowie Tumskim. Badania przy ul. św. Idziego*, eds A. Limisiewicz, A. Pankiewicz, Wrocław, pp. 13–31.
- Panzram B., 1940, *Geschichtliche Grundlagen der ältesten schlesischen Pfarrorganisation*, Breslau.
- Piekalski J., 1991, *Wrocław średniowieczny. Studium kompleksu osadniczego na Olbinie w wiekach VII–XIII*, Wrocław.
- Piekalski J., 1999, *Od Kolonii do Krakowa. Przemiana topografii wczesnych miast*, Wrocław.
- Piekalski J., 2002a, *Lokacja Wrocławia jako problem badawczy archeologa*, [in:] *Civitas & Villa. Miasto i wieś w średniowiecznej Europie Środkowej*, eds. C. Buśko et al., Wrocław–Praha, pp. 49–62.
- Piekalski J., 2002b, *Zakończenie*, [in:] *Rynek wrocławski w świetle badań archeologicznych*, vol. 2, ed. J. Piekalski, *Wratislavia Antiqua*, 5, Wrocław, pp. 287–291.
- Piekalski J., 2004, *Wczesne domy mieszczan w Europie Środkowej*, Wrocław.
- Piekalski J., 2005a, *Problem datowania początków Rynku we Wrocławiu*, [in:] *Nie tylko zamki. Szkice ofiarowane Profesorowi Jerzemu Rozpędowskiemu w siedemdziesiątą piątą rocznicę urodzin*, eds. E. Różycka, M. Chorowska, Wrocław, pp. 343–351.
- Piekalski J., 2005b, *Wrocław – miasto Henryka IV*, [in:] *Śląsk w czasach Henryka IV Prawego*, ed. K. Wachowski, *Wratislavia Antiqua*, 8, Wrocław, pp. 39–48.
- Piekalski J., 2010a, *Obraz ulicy w przestrzeni publicznej średniowiecznego Wrocławia. Próba podsumowania*, [in:] *Ulice średniowiecznego Wrocławia*, eds. J. Piekalski, K. Wachowski, *Wratislavia Antiqua*, 11, Wrocław, pp. 407–411.
- Piekalski J., 2010b, *Struktura osadnicza i drogi Wrocławia przed wytyczeniem regularnej sieci ulic*, [in:] *Ulice średniowiecznego Wrocławia*, eds. J. Piekalski, K. Wachowski, *Wratislavia Antiqua*, 11, Wrocław, pp. 47–55.
- Piekalski J., 2014, *Praga, Wrocław, Kraków. Przestrzeń publiczna i prywatna w czasach średniowiecznego przełomu*, Wrocław.
- Piekalski J., Wachowski K., 2010, *Przełom średniowiecza i nowożytności w miastach śląskich*, Śląskie Sprawozdania Archeologiczne, vol. 52, pp. 341–364.
- Przyłęcki M., 1966, *Mury obronne miast Dolnego Śląska*, Wrocław.
- Przyłęcki M., 1987, *Miejskie fortyfikacje średniowieczne na Dolnym Śląsku. Ochrona, konserwacja i ekspozycja 1850–1980*, Warszawa.
- Przyłęcki M., 1998, *Budowle i zespoły obronne na Śląsku. Geneza, modernizacja i ewolucja do XVII wieku*, Warszawa.

- Romanow J., 1979, Wyniki badań archeologicznych na terenie Arsenału Mikołajskiego we Wrocławiu, typescript in the archives of the Municipal Conservator of Monuments in Wrocław, Wrocław.
- Romanow J., 2001, *Chronologia Bramy Piaskowej w świetle wyników badań wykopaliskowych w roku 2000*, Silesia Antiqua, vol. 42, pp. 143–144.
- Romanow J., Piwko R., 1992, Arsenał wrocławski – wyniki badań archeologiczno-architektonicznych. III etap badań, typescript in the archives of the Provincial Conservator of Monuments in Wrocław, Wrocław.
- Romanow J., Romanow M., 2010, *Opactwo kanoników regularnych św. Augustyna na Piasku we Wrocławiu w świetle badań archeologicznych*, [in:] *Średniowieczne i nowożytnie nekropole Wrocławia 1*, ed. K. Wachowski, *Wratislavia Antiqua*, 12, Wrocław, pp. 159–160.
- Rozpędowski J., 1961, *Palatium w Legnicy*, Kwartalnik Architektury i Urbanistyki, 6 (3), pp. 177–202.
- Rozpędowski J., 1962, *Ze studiów nad palatiami w Polsce*, Biuletyn Historii Sztuki, 24 (3–4), pp. 243–254.
- Rozpędowski J., 1963, *Zamek w Legnicy (z badań architektonicznych z r. 1961)*, Komunikat. Zeszyty Naukowe Instytutu Historii Architektury, Sztuki i Techniki Politechniki Wrocławskiej 67, Architektura, 5, Komunikaty, pp. 89–92.
- Rozpędowski J., 1965, *Początki zamków w Polsce w świetle badań warowni legnickiej*, Kwartalnik Architektury i Urbanistyki, 10 (3–4), pp. 149–180.
- Rozpędowski J., 1968a, *Inkastelacja kościołów polskich w średniowieczu*, Kwartalnik Architektury i Urbanistyki, (4), pp. 353–376.
- Rozpędowski J., 1968b, *Kościół warowny na Śląsku*, Roczniki Sztuki Śląskiej, 6, pp. 54–97.
- Rozpędowski J., 1971, *Zamek romański w Legnicy*, Szkice Legnickie, 6, pp. 5–45.
- Rozpędowski J., 1972, *Rozwój przestrzenny kościoła Klarysek we Wrocławiu*, Prace Naukowe Instytutu Historii Architektury, Sztuki i Techniki Politechniki Wrocławskiej, no. 2, Studia i Materiały, no. 1, Wrocław.
- Rozpędowski J., 1975, *Bastejowe fortyfikacje na Śląsku*, [in:] *Bastejowe fortyfikacje w Polsce*, ed. E. Małachowicz, Prace Naukowe Instytutu Historii Architektury Sztuki i Techniki Politechniki Wrocławskiej, no. 9, Studia i Materiały, no. 3, Wrocław, pp. 137–146.
- Rozpędowski J., 1978a, *Architektura świecka do połowy XIII wieku*, [in:] *Wrocław – jego dzieje i kultura*, ed. Z. Świechowski, Warszawa, pp. 50–55.
- Rozpędowski J., 1978b, *Gród a zamek w Polsce – problemy genezy i typologii*, Prace Naukowe Instytutu Historii Architektury Sztuki i Techniki Politechniki Wrocławskiej, no. 12, Studia i Materiały, no. 5, Wrocław, pp. 91–96.
- Rozpędowski J., 1978c, *Późnogotyckie rezydencje na Śląsku*, [in:] *Sztuka i ideologia XV wieku*, ed. T. Skubiszewski, Warszawa, pp. 490–530.
- Rozpędowski J., 1989, *Rozwój przestrzenny joannickiego kościoła p.w. Bożego Ciała we Wrocławiu*, Prace Naukowe Instytutu Historii Architektury Sztuki i Techniki Politechniki Wrocławskiej, no. 22, Studia i Materiały, no. 11, Wrocław, pp. 163–174.
- Rozpędowski J., 1995, *Wrocław pierwszej lokacji*, [in:] *Architektura Wrocławia*, vol. 2: *Urbanistyka do roku 1945*, ed. J. Rozpędowski, Wrocław, pp. 41–52.



- Rozpędowski J., 1999, *Schlesien*, [in:] *Burgen in Mitteleuropa. Ein Handbuch*, 2: *Geschichte und Burgenlandschaften*, ed. H.W. Böme, Stuttgart, pp. 265–268.
- Rozpędowski J., 2007, Brama Świdnicka II wraz z murem obronnym wokół terytorium Joannitów na przedbramiu, z zabudową komandorii, szpitala, kaplicy i kościoła p.w. Bożego Ciała, typescript in the archives of Akme – Zdzisław Wiśniewski Sp. z o.o., Wrocław.
- Rozpędowski J., 2009, *Zamek w Legnicy*, [in:] *Atlas historyczny miast polskich*, vol. 4: *Śląsk*, issue 9: *Legnica*, eds. R. Eysymontt, M. Goliński, Wrocław, pp. 33–41.
- Rozpędowski J., 2011, *Breslau zur Zeit der ersten Lokation*, [in:] *Rechtsstadtgründungen im mittelalterlichen Polen*, ed. E. Mühle, Städteforschungen, Münster, pp. 127–138.
- Salij J., 1985, *Legends dominikańskie*, Poznań.
- Silnicki T., 1953, *Dzieje i ustrój kościoła katolickiego na Śląsku do końca XIV w.*, Warszawa.
- Słoń M., 2007, *Początki osady walońskiej i kościoła św. Maurycego we Wrocławiu*, [in:] *Dzieje parafii św. Maurycego na Przedmieściu Oławskim we Wrocławiu. Od początków osady walońskiej – poprzez czas Festung Breslau – do współczesności*, ed. R. Żerelik, Wrocław, pp. 11–20.
- Sondel J., 2006, *Słownik łacińsko-polski dla prawników i historyków*, Kraków.
- SUb., 1963, *Schlesisches Urkundenbuch*, vol. 1: 971–1230, ed. H. Appelt, Wien–Köln–Graz.
- SUb., 1977, *Schlesisches Urkundenbuch*, vol. 2: 1231–1250, ed. W. Irgang, Wien–Köln–Graz.
- SUb., 1984, *Schlesisches Urkundenbuch*, vol. 3: 1251–1266, ed. W. Irgang, Köln–Wien.
- SUb., 1998, *Schlesisches Urkundenbuch*, vol. 6: 1291–1300, ed. W. Irgang, Köln–Weimar–Wien.
- Tajna historia Mongołów*, 2005, *Tajna historia Mongołów. Anonimowa kronika mongolska z XIII wieku*, ed. S. Kałużyński, Warszawa.
- Tetrycz-Puzio A., 2009, *Henryk Sandomierski (1126/1133–18 X 1166)*, Kraków.
- Uhtenwoldt H., 1938, *Die Burgverfassung in der Vorgeschichte und Geschichte Schlesiens*, Breslau.
- Urkunden*, 1970, *Urkunden erzählende Quellen zur deutschen Ostsiedlung des Mittelalters*, eds. H. Helbig, L. Weinrich, 2: *Schlesien, Polen, Böhmen-Mähren, Österreich, Ungarn-Siebenbürgen*, Darmstadt.
- Zientara B., 1997, *Henryk Brodaty i jego czasy*, 2<sup>nd</sup> edition, Warszawa.
- Żurek A., 1997, *Dawny Zamek Cesarski, pl. Uniwersytecki*, [in:] *Atlas architektury Wrocławia*, vol. 1: *Budowle sakralne. Świeckie budowle publiczne*, ed. J. Harasimowicz, Wrocław, pp. 98–99.
- Żurek A., Małachowicz M., 2011, *Fortyfikacje Wrocławia*, [in:] *Leksykon architektury Wrocławia*, eds. R. Eysymont et al., Wrocław, pp. 31–38.

