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**The genesis, growth, and decline of small motte-and-bailey type castles  
in the Silesian Plain on the example of Kadłub (Garten), Poland**

*Abstract.* The paper presents the results of archaeological excavations and datamining of historical sources concerning a motte-and-bailey castle once located in the area of Kadłub. This castle made part of the no longer extant allodium Garten. According to evidence, the stronghold operated likely from the mid-15<sup>th</sup> century to the early 16<sup>th</sup> century under two successive houses, namely, the von Luchows and the von Rymbabes; nonetheless, the date of construction is difficult to determine. Allodium Garten derived much of its income from aquaculture supplemented by raising cattle and – to a lesser degree – by growing corn. In the course of excavations remnants of an elongated, rectangular house were unearthed showing a timber frame, as evidenced by the house foundations. The site in question reflects the contemporaneous popularity that strongholds of this kind enjoyed. The changes linked with the passage to the Modern Era led to a diminishing relevance of the motte-and-bailey castle and its abandonment, with the excavations failing to yield any traces of its violent end. Archaeological evidence cross-checked with ALS (Airborne Laser Scanning) data recorded on the site as well as written sources indicate that the surroundings of the site have undergone a substantial transformation due to human activity and have been subjected to major anthropogenic pressure; the site was part of an interestingly designed economic centre that faded over time and was annexed into the neighbouring village of Kadłub.

*Keywords:* fish ponds, motte, allod, medieval settlement, Silesia.

*Introduction*

The area of today's France witnessed the spread of a low-cost castle development called motte-and-bailey. Its popularity was linked to the social changes during the transition from the late Carolingian era to the system commonly known as feudalism in the 11<sup>th</sup> century (Poisson 2007, p. 48). This type of strongholds became particularly popular in the northwest of the continent due to its use by Normans (Chorowska 2003, p. 75; Marshall 2007, p. 21; McNeil 2007, pp. 9–10). Interestingly, neither in Italy – where Norman expansion had already begun in the 11<sup>th</sup> century, nor in the areas of the Levant conquered by Crusaders motte-and-bailey-type fortifications ever gained greater popularity (Pringle 1998, p. 188). Social transformations conducive of the spread of private castles affected different parts of Europe at a different pace (Besteman 1985, p. 217). A fervent discussion on the economic functions of a motte-and-bailey castle very closely linked to lands of high agricultural value is being held (McNeill 2007, p. 18). Nonetheless, one must also bear in mind that in the medieval period, such land was of high strategic importance (Besteman 1985, p. 218). Furthermore, motte-and-bailey fortifications had the symbolic nature of serving as the “lord's seat” (Marshall 2007, p. 23).

The military and socio-symbolic aspects of such strongholds should be analysed based on case studies. In some instances, the military role is predominant, while in others, there is barely any account of it due to its tertiary importance (McNeill 2007, p. 18). Usually, a man-made mound is topped with buildings of light construction, the principal building material being wood (Poisson 2007, p. 48). The key advantages of motte-and-bailey castles lied in low construction costs, as well as in the easiness of and high speed at which they could be erected. Norman poet Wace wrote that owing to the use of prefabricated wooden elements transported by ship, it was possible to build a motte-and-bailey castle in a single day (Hinz 1981, p. 23). In this respect, archaeology provides some specific data, i.e., scholars have calculated that an average size motte that is 5 m tall with the diameter of its flattened summit that is 15 m wide could be built by 50 people in just 40 working days (de Meulemeester 2007, p. 31). In some cases, raising wood-and-earth fortifications by less affluent members of the nobility was dictated by the local law, as under its provisions the right to build masonry fortifications was reserved for the local sovereign (Besteman 1985, p. 218). In certain instances, the sovereign could issue a privilege allowing for an upgrade of wooden fortifications to have them replaced with masonry of a higher military value (Hinz 1981, p. 35). Nevertheless, the defensive property of a stronghold with a bailey enclosed by wooden stockades should not be underestimated (Zabiela 2007, p. 308; Biermann, Posselt 2016). In Europe, the high popularity of motte-and-bailey castles as seats of lesser countryside-dwelling nobles (Poisson 2007, p. 48) is emphasised by the fact that these were built from scratch even in the 15<sup>th</sup> century (Biller 1998, pp. 116–117).

*The motte-and-bailey castle at Kadłub/Garten*

The setting of the motte-and-bailey castle at Kadłub (Miękinia commune, Lower Silesian Voivodeship, site 4/12) is a textbook example of manors built on a motte located in flat wetland areas (Figs. 1, 2) (Nadolski, Kosiorek 1986, p. 33; Biller 1998, p. 112; Poisson 2007, p. 52; Nowakowski 2017, pp. 320–321). The fortification consists of two rings of ramparts, a double ditch, a man-made mound that presently stands 2.5 m above the ground, and two rectangular baileys enclosed by ramparts (Fig. 3). A decision was made to refrain from drawing any far-reaching conclusions based on the current height of the mound. In some instances, the height of the mound is used as a criterion for determining whether a motte-and-bailey castle served primarily for military or civilian purposes (Besteman 1985, p. 213). Considering natural erosion (Fig. 4), attempts at establishing some minimal height as the threshold above which the primary function of a motte-and-bailey castle would be considered defensive – and not administrative, for instance – seem futile. Nonetheless, when dealing with better-preserved features, one should be cognizant of the medieval standards that they had to meet, as defined in, e.g., the *Sachsenspiegel* (Sachse 2000, p. 184, Book III, article 66: 3; Nowakowski 2008, p. 282).

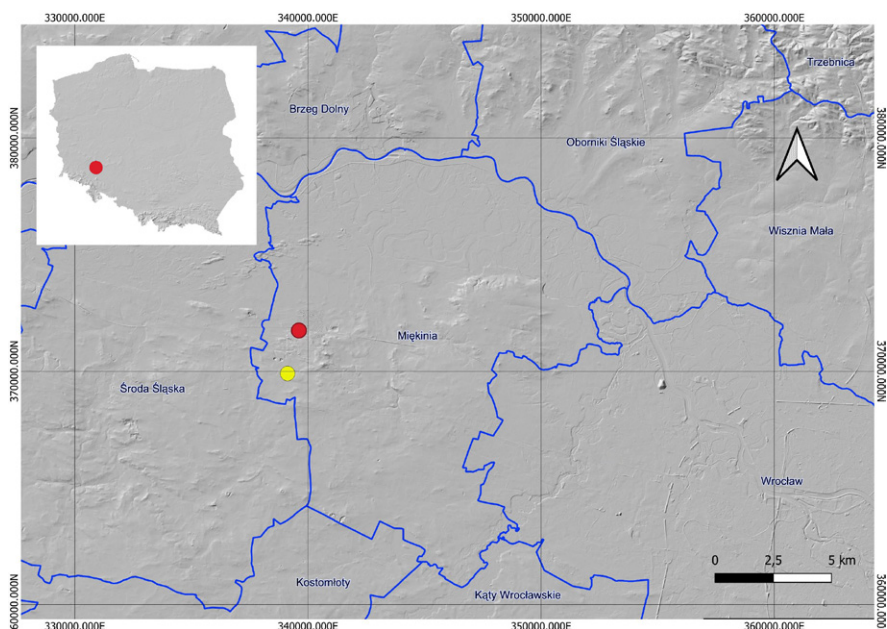


Fig. 1. Map showing the location of the Kadłub site (marked in red, the village Kadłub marked in yellow) within Poland's modern-day borders (based on ALS data from the Head Office of Land Surveying and Cartography, website: [www.geoportal.gov.pl](http://www.geoportal.gov.pl); developed by L. Marek)

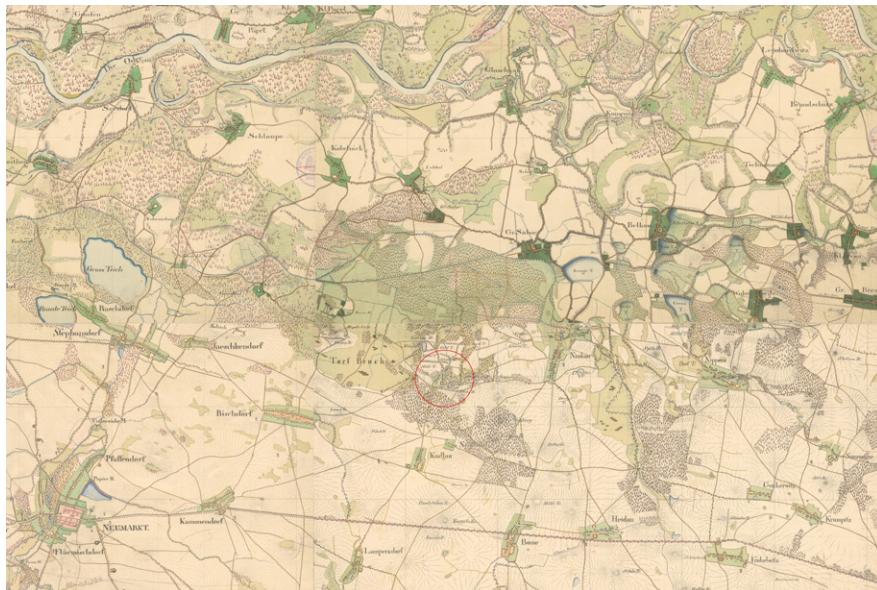


Fig. 2. The discussed area represented on four integrated map sheets of the Urmesstischblatt from ca. 1835 (source: Staatsbibliothek zu Berlin, Preußischer Kulturbesitz, Ref. SBB IIIC, Kart N 729, Blatt 2764, 2765, 2825, 2826; modified by M. Grześkowiak)

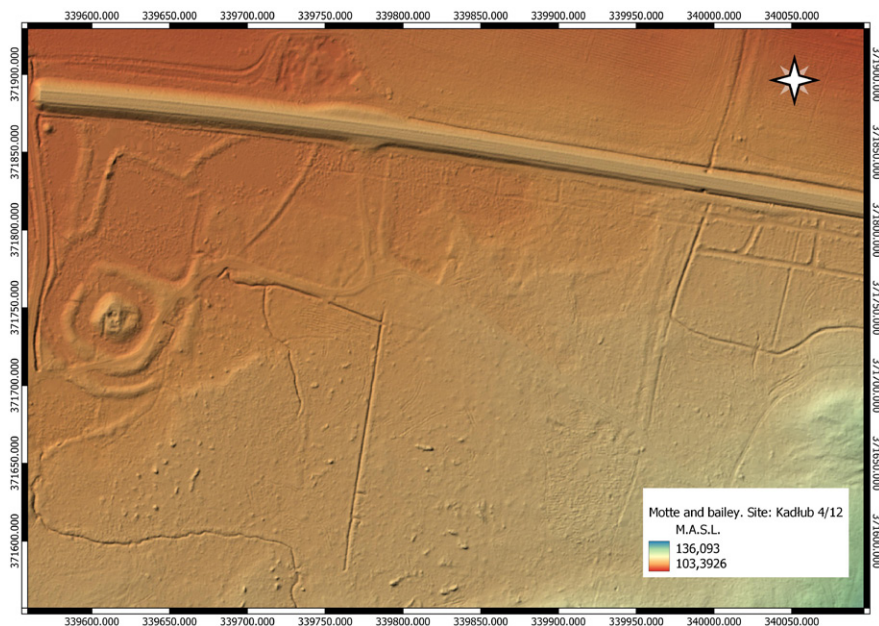


Fig. 3. Kadłub. Digital elevation model (DEM) showing the location of the motte (2.5 m above the ground) and two rectangular baileys enclosed by ramparts (based on the ALS data from the Head Office of Land Surveying and Cartography, website: [www.geoportal.gov.pl](http://www.geoportal.gov.pl), file no. M-33-34-A-d-4-1-4, job no. DFT.7201.016.2019; visualisation by L. Marek)





Fig. 4. Kadłub. The picture of the site taken in 2019 showing the motte from the east (photo by P. Duma)

The excavation studies were focused on the motte, which is a traditional approach in examining this type of a site; however, due to the limited area of archaeological exploration, they are incomplete (Besteman 1985, pp. 211–212). The relevant literature has already emphasised the invaluable character of written records from the period when the motte was occupied. In the literature, emphasis is put on the extraordinary value of cadastral and property maps from the 18<sup>th</sup> and the 19<sup>th</sup> centuries, where such structures, sometimes barely visible in the terrain, mark their presence in the land ownership structure rooted deeply in the Middle Ages (Poisson 2007, p. 48).

#### *Historical note*

For a long time, the remnants of the motte-and-bailey castle raised in natural wetlands have been linked with the nearby village of Kadłub (Nowakowski 2017, p. 320). Extensive data mining of historical and cartographic records suggests that both the castle and the neighbouring demesne operated as part of the no longer extant settlement of Garten. The latter is occasionally misidentified as a hamlet supposedly located next to Piotrowice near Kąty Wrocławskie (*Słownik etymologiczny* 1986, p. 26). The location of Garten within the present-day boundaries of the village of Kadłub had already been suggested by Adolf Moepert (1935).

Richard Hoffmann (1989, pp. 12–14) located allodium Garten north of Kadłub. In the past, the area of the demesne of Garten bordered upon five settlements, specifically, Zabór Mały (Klein Saabor) from the north, Miękinia (Nimkau) from the east, Przedmoście (Bruch) from the west, Święte (Bischdorf) from the south-west, and Kadłub (Kadlau) from the south, and it became united with the latter over time (Fig. 2).

We cannot pinpoint the date at which the motte-and-bailey castle was raised. A Prague Grosch coin found on top of the foundation was dated to ca. 1386–1395. It was probably a foundation deposit placed in the corner of the building under the timber sill beam. Most likely, a worn coin taken out of circulation was used for this purpose, suggesting a time lag between its use and deposition. The building, therefore, cannot be dated earlier than the 15<sup>th</sup> century (Duma, Paszkiewicz 2010). Examination of preserved documents allows for partial reconstruction of the history of several families holding lands in Garten and Kadłub in the Middle Ages.

The oldest known document about allodium Garten is a sale contract drawn up in Wrocław in 1358, wherein Heynco de Boronowicz (later Boranewitz; Jurek 1998, p. 206) sells his demesne to Konrad de Luckow (APWr, ZRA, Rep. 16, 3A, 3; *Regesty* 1992, p. 50). The document notes that the property neighbours the lands of the village of Miękinia (Nymkynne), supporting the hypothesis about the village's location. The aforementioned Konrad is likely the same Konrad de Luckow mentioned in another source from 1352 alongside his wife Katarzyna, daughter of Gelfrad von Haugwitz (Jurek 1998, p. 253).

We do not know much about the history of Garten from the time preceding the 1358 document. In older sources, we encounter a single mention of an enigmatic settlement Zagroda – which in Polish means an “enclosure” (especially for farm animals) or a “homestead”, dating back to 1307. In contemporary German, the Polish word *zagroda* has been often translated to *Garten*, leading to the emergence of the German term *Gärtner*<sup>1</sup> (anglicised as *gertner*) for the *Zagrodnik* category of the rural population. This place-name is mentioned in the context of a dispute over Church tithes between the Cistercians from Lubiąż and the parson from Chomiąza (Goliński 2006, pp. 45–46). Zagroda is tentatively placed between Jaśkowice and Szczepanów (Młynarska-Kaletynowa 2003; Żerelik 2018, pp. 51–52), i.e., about 5.5 km to the west of Garten. Nevertheless, the original document does not contain any information that would allow one to determine its location with this high degree of precision (*Codex diplomaticus* 1892, pp. 102–103, Reg. 2922). Perhaps, Zagroda from the 1307 document can be identified as the demesne Garten mentioned in the one 1358. There is ample evidence for original Slavic place names changed not only in Silesia, but also in the nearest neighbourhood. The custom of translating Polish place names was driven by the growing use of German, besides Latin, in

<sup>1</sup> The authors wish to express their gratitude and appreciation for Prof. Mateusz Goliński.

the Courts and chanceries (Domański 1967, p. 148). This was the case for, e.g., the nearby village of Święte, which in 1345 appears with an alternative name (Swanth vel Bischofsdorph), or Lipnica which was called Schadewinkel (Lypnicza apud Theutunicos Schadewinkel) in German (Goliński 2006, pp. 37–40). Nevertheless, we did not find concrete evidence supporting the theory that Zagroda from 1307 is indeed Garten. On the other hand, the fact that the two names do not appear in contemporaneous documents, the Polish *Zagroda* is earlier than the German *Garten*, and the proximity of both locations all seem to support this hypothesis.

We know that demesne Garten belonged to the von Luchow (Luckau) family for several decades. The family's representatives appear in post-15<sup>th</sup>-century documents as buyers of properties in surrounding areas. A family member who stands out by his particularly high activity is the Konrad mentioned in 1358. Konrad was on a quest to acquire the entire village.

In 1367, probably this very same Konrad together with Stephan Grzebkowicz (de Gorsebkowicz) – likely a relative of his – bought six rent-paying lans located in the village of Kadłub from Zamborius of Księgienice (de Knegnicz) (APWr., RF I, 418). The Grzebkowicz family, which had its seat in Jarząbkowice, had long been neighbours of the de Luchows, since they owned extensive properties located in many villages in the same area (APWr., RF I, 155; APWr., RF II, 622, 818). In 1358, particularly active Stephan (Stefko Grzebcowicz) first traded away five marks of annual rent from his manors in Miękinia to the Środa burgheress Agatha Stoberynne (*Regesty* 1992, p. 270, Reg. 221), followed by the sale of his properties in Zabór Mały (Klein Sabor) to Peczconi Scal (APWr., RF III, 2156). Subsequently, in 1362, brothers Stephan and Henryk de Grzebkowicz sold seven more lans in Miękinia (APWr., RF II, 818).

The joint ventures with Stephan aside, Konrad de Luckow was doing business on his own. In 1368, he acquired two and a half lans in Juszczyna, a village bordering Kadłub from the south, from Gunzelius Kobirshain. These lans were partly arable and in part classified as *zbytki*, i.e., “leftovers” *ubirchar* (area – Polish *obszar*) called *Grossowr* (APWr., RF II, 590). The term *obszar* was used for areas assigned to a village when it was founded, thus providing it with space for further expansion and development (Nowosielska-Sobel *et al.* 2019, p. 179). In 1371, Franzke Luchow (Lukow, possibly Konrad's son) sold one lan in Juszczyna to Witschen Scal. W 1376, the mentioned Franzke disposed of one more lan by selling it off to the son of *Schultheiss* of Juszczyn (village Headman) Hans Nickeln (APWr., RF II, 590).

We know that in 1380, Gregor from Zabor (von Sabor) bought woodlands, meadows, ponds, and pastures in the village of Teufelsbruch (Bruch, now Przedmoście) (APWr., RF II, 2784) neighbouring Garten lands from the west at that time (Moepert 1935, p. 23) from Konrad von Luckow's and Stephan Grzebkowicz's (von Grzebkowicz) half-sister. Later, 1381 Konrad purchased two lans in Kadłub from Roszek Kumeise, followed by an acquisition of three more lans in Kadłub from Heineman

Grzebkowicz in 1393 (APWr., RF I, 418; Nowakowski 2017, p. 205). It cannot be ruled out that the money used for purchasing these properties was borrowed, as in 1383–1390, the Wrocław burgher Peter Peseler extended loans to members of the von Luckow family unknown by name. We suspect that one of them could have been “our” Konrad, as he had pawned his Garten estate (near Kadłub) as security for a loan (Pfeiffer 1929, p. 111). Interestingly, the list of Peseler’s borrowers includes members of the von Rymbabe family (more on this below) and the von Haugwitz family. Many of them were taking loans repeatedly (Pfeiffer 1929, p. 111; Pusch 1988, pp. 209–210). In 1391, Konrad von Luckow purchased almost the entirety of Księginice with all related rights from the above-mentioned Zamborius/Zambor from Księginice (v. Knegnitz), whereas in the years that followed, Konrad’s numerous descendants were active managers and administrators of properties in this village (APWr., RF I, 454).

We do not know the year of Konrad’s death; he was a party in many contracts concluded between 1358 and 1391 (APWr., RF I, 502). In the following years, his numerous descendants and relatives became owners of lands within the boundaries of Garten, Kadłub, and Księginice. In 1417, Hanken Luckow expanded the list of properties held by the family by acquiring the demesne in Kadłub with three lans from Jakob Borsig. According to the tax roll from 1425, the village tax was paid by Ulryk Luckaw. Interestingly, the very same Ulryk Luckaw also paid this tax for Księginice (Korta 1953, p. 253) even though contemporaneous documents mention only Gelfried von Luckow (1402) and the Tyez and Wilrichen von Luckow brothers (1416) as involved in property in that village (APWr., RF I, 454).

Starting from the mid-15<sup>th</sup> century, allodium Garten was gradually passed into the hands of the Rymbabes (later known as von Rheibaben). It is one of the oldest Silesian noble houses with its original seat in Siemidrożyce (Moepert 1940, p. 79; Jurek 1992, p. 46; Wójcik 2018, pp. 671–672). In 1399, Wojciech Rymbabe (Woyzech Rimbaben) sold his stake in a mill next to Miękinia (Brist Muehls – which exists today to the east of the village). Nikel Luchow (Lukaw) was one of the witnesses of this transaction (APWr., RF II, 819). Nonetheless, it was not until 1457 that Heinrich Rymbabe together with Gabriel Tschammerdorf bought two meadows located near Garten known as Campperweze and Kobilweze from Heinze Strelen from Zabór Mały (Rheinbaben-Warmbrunn 1898, pp. 149–150). We may theorise that Heinrich Rymbabe did not appear in this part of Silesia by accident. In 1434, Hannos Rymbabe in partnership with his sister Katerina acquired 20 marks of rent from the village of Święte adjacent to Kadłub (Rheinbaben-Warmbrunn 1898, p. 240). Furthermore, a document dated to 1441 names Wilrich Lucke, Heincze Rymbabe, Petsche Creysshilwicz, and Konrad Camprow – all subpoenaed by Konrad Lucke – appearing before the Wrocław Court and giving testimony against Fridrich from Zabor (von Zabor) (Rheinbaben-Warmbrunn 1898, pp. 147–148).



We may suspect that besides the known and mentioned acquisitions, von Rymbabe properties likely included other lands within the boundaries of both Garten and Kadłub, acquired by means of marriage; however, this is not recorded in the preserved documents. Drawing upon the data contained in an epitaph from 1569 in the church at Żródła, we can fill in some gaps in document-based knowledge. Misattributed to Hans Sedlitz (*Katalog zabytków* 2014, p. 446), the epitaph was actually devised in memory of Hans Rymbabe (Reinbaben) by his widow Barbara nee Falkenhain (Aleksy 2019, p. 41). The preserved paternal coat of arms includes that of Hans' paternal grandmother, nee von Luckow from Garten (*Dv Lucke Aus dem Haus Garten*), with Hans himself titled as "lord" of Kadłub and Garten (*Herr zu Cadel und Garten*). The analysis of the said epitaph allowed Karl Rheinbaben-Warmbrunn to determine that before 1434, widower Paschke Rymbabe remarried Elisabeth von Luck(e) from Garten. The trustees mentioned in the 1434 document were Heincze Rymbabe and Konrad Luchow (Lucke), Elisabeth's brother (Rheinbaben-Warmbrunn 1898, pp. 146–147). This marriage produced Georg Rymbabe, the father of Hans honoured in the epitaph. The complicated picture is in some way clarified by a document from 1456, wherein the Sommerfeld brothers cede their rights to their holdings in Garten and Kadłub – bequeathed to them by Heincze Luckaw – to their wives Agnes Rymbabe and Barbara Tschammendorf, respectively (Rheinbaben-Warmbrunn 1898, p. 149). The deceased Heincze held some other lands in the vicinity. In 1440 a Niclass Wende, known as Koschmann, passed on his stakes in the villages of Raszków and Lipnica to his uncles Hans Profenow and Heinzo Luckaw (APWr., RF III, 2065; Żerelik 2018, p. 64). It is likely that the said Heinz (Heintze) was one of the witnesses to the sale of land in Krępie in 1451 – as one of the parties was identified solely as "von Garten" (*Codex diplomaticus* 1863, p. 223). After this date, there are no mentions of house von Luchow members who could be directly associated with Garten and Kadłub. Nevertheless, this family was present in the Środa district, possibly cultivating some familial ties deep into the future, as hinted (?) by the visit of Jorge Luckaw – self identifying as von Busdurff (Bösdorf?/Pakośławice) – who came to Garten at the request of Jorge Rymbabe in 1520 to examine and testify to the damages caused by a neighbour to local meadows and ponds (Rheinbaben-Warmbrunn 1898, pp. 159–160).

Going back to the time when the Rymbabe appear in Garten, we must point out that – as in the case of de Luchow family in the 14<sup>th</sup> century – they also embarked on a decades-long process of buying properties in the area. It is unquestionable that expanding their properties within the boundaries of Kadłub and Garten required money. This could be the reason why in 1456 Nickel and Hans Rymbabe decided to sell Wilkostowo (Wolstorf), and at the same time, declared to hold seven additional lans in Budziszowo (Budissen) in the Środa district and one mark of rent in Nowy Śleszów (Slischow?). A few years later, in 1465, the brothers sold also the lans in Budziszowo (Rheinbaben-Warmbrunn 1898, p. 150). The funds acquired by means

of this transaction were channelled into the acquisitions of lands around Garten. In 1470, brothers Nickel, Heinczen, and Joergen Rymbabe bought parts of the villages of Garten and Kadłub (Cadelaw) previously held by Jorg Ckreisilwitz and his sister Elizabeth, a minor at that time (Rheinbaben-Warmbrunn 1898, pp. 151, 243). Two months later, the brothers sold their demesne in Czechy (Czawche) in the Środa district to Hannos Zeidlic of Śmiałowice (Smelwicz) (Rheinbaben-Warmbrunn 1898, p. 151). Thus, the village of Kadłub with allodium Garten incorporated into its borders, and later also with the demesne of Göbel (established nearby in the modern era) became the main seat of House Rymbabe. Kadłub served this role for many years until the early 18<sup>th</sup> century. Nevertheless, in spite of their efforts, the von Rymbabes never managed to acquire and consolidate all the extensive lands within the boundaries of those two settlements.

### *Economic activity*

In medieval sources, Garten stands described as an *allodium* and likely the lord's demesne, without any designated peasant plots. However, one cannot rule out the existence of *gertner* lots even at that date (Goliński 2006, p. 35). Nonetheless, there is no consensus as to the details and principles of management of *allodia* in Silesia. Due to the dominance of the rent economy in the 14<sup>th</sup> century, with a limited scope of labour obligations towards the lord and low numbers of *gertners*, there local manpower was not sufficient to provide labour for owners of such *allodia*. Some scholars claim that not all *allodia* mentioned in 14<sup>th</sup> century sources consisted of arable land, as some involved mostly forests, meadows and wasteland. Over time, such unused areas were gradually developed and put to economic use (Korta 1953, pp. 232–233). Other researches perceive *allodia* as feudal estates which – in contrast to villages (*villae*) – consisted of a small demesne and a small village of serfs, chartered according to the Polish Law (Heck 1956, p. 171, footnote 10). According to the research conducted by Gertrud Dyhrenfurth (1906, p. 17), who studied the Jakubowice demesne in the Środa district, an entity without serfs, the land was tilled by serfs and *gertners* settled in pre-colonisation times. Allegedly, the social category of *gertners* in the village evolved from smallholder villeins settled under the Polish Law to provide labour for the manor. However, in other theories, labour for *allodia* is perceived as provided by *jutrzynna* organisations, i.e. compulsory working of specified acreages of the landlord's property by peasants (Rutkowski 1950, pp. IV–5). Only the increasing number of *gertners* over time – and the larger scale of corvée – provided a source of cheap labour.

Without further research, it is difficult to provide more information on the exact organisation of the demesne of Garten and the main activities. In the 14<sup>th</sup> century, the area was used for pasture, farming, and aquaculture. Numerous

streams and a high water table were conducive to developing aquaculture. We may suspect that the first ponds near the castle were established in the 15<sup>th</sup> century or, likely, even earlier. This is consistent with the aquaculture-related activity observed among many landowners from around Wrocław between the mid-15<sup>th</sup> to the early 16<sup>th</sup> century (Pfeiffer 1929, pp. 212–213, add. 3). The establishment of ponds required the consent of neighbouring landowners and taking loans. Nevertheless, these generated desired results, with outlay recouped inside a relatively short period. For instance, in 1492, in Zabor neighbouring Garten from the north Hans Dompnig harvested nine thousand three-year-old carps (Hoffmann 1989, p. 366).

It is beyond doubt that in the past, the area around demesne Garten was highly favourable to the establishment of high-yield aquaculture. Most of the demesne's lands lay inside the flat and broad (5–6 km) floodplain of the Oder, crossed by many minor water courses that could be used for filling shallow fishponds (Žerelik 2009, pp. 23–24). The terrain was also conducive to building watermills. Indeed, none of the medieval records mentions a mill, yet an account of its existence is provided in later sources, citing a *Gartenmühle* operating within the boundaries of the former settlement up to the mid-19<sup>th</sup> century.

Aquaculture is first mentioned in the above-mentioned sale contract of *allodium* Garten from 1358, which lists, meadows and fields aside, also fish ponds (*omnibus pertinencijs et appendijs ipsius, pratis, pascuis, metijs, grenicijs, piscaturis, agris cultis et incultis* – APWr., ZRA, Rep. 16, 3A)<sup>2</sup>. The existence of ponds and dykes is indirectly inferred by a document from 1470 (Rheinbaben-Warmbrunn 1898, p. 243). Ponds are again mentioned 50 years later, in 1520, in the context of the already alluded to conflict between the then owner of Garten Jorge von Rymbabe and Caspar Lazar. Jorge von Rymbabe accused Lazar of draining his ponds, leading to the loss of hay that had not been yet collected from meadows, damage to unharvested grass, and a mass fish die-off. The resulting inundation also led to the loss of 6 cartloads of hay by the commune, as testified to by Kadlub peasants (Rheinbaben-Warmbrunn 1898, pp. 159–160). Documents from later years lack detailed information about ponds in Garten. Nevertheless, we may assume that their fate followed regional tendencies for this industry.

The prevailing view is that future years brought a major increase in the role of aquaculture in Silesia, driven by e.g. growing demand for fish (Nyrek 1992, p. 44). This drew attention to lands poorly suited for agriculture which, due to being waterlogged, could not be used as arable farmland. Furthermore, the intensive economic development of mountainous areas led to more frequent and more severe

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<sup>2</sup> We wish to express our gratitude to Prof. Tomasz Jurek for making a copy of the document available to us. We also wish to express our appreciation to Prof. Wojciech Mrozowicz for his extensive assistance in interpreting the document.

flooding – noted especially from mid-16<sup>th</sup> century and in the 17<sup>th</sup> century. It is assumed that frequent flooding prompted intensification of works on the large stream-river pond complexes. Such an investment was possible when large reserves of relatively cheap labour were available. Nonetheless, such projects required professionals specialising in the construction and management of large fish ponds. The importance of aquaculture markedly decreases in the 18<sup>th</sup> century (Nyrek 1992, pp. 45–46).

The analyses of the LIDAR data and the datamining of cartographic sources revealed the actual scale of investment put into the establishment of the ponds and their area. None of the preserved archival maps shows all the structures still visible in the terrain. Cartographic maps show only selected fragments of their course. The location and coverage of the ponds can be reconstructed only by means of collating and comparing the data from various sources (Fig. 5).

The most detailed preserved source is the *Urmesstischblatt* from 1834 (Fig. 2). It presents a picture of the disappearance of ponds with – if it is to be believed – only a single pond being still in use at that time, supplying the already mentioned water mill (*Gartenmühle*). The remaining ponds were used either as meadows or fields. Their previous coverage is evidenced by still discernible dykes or self-explicatory names such as *Mühl*-, *Mittel*-, *Feld*-, *Olsche*-, *Scheibe*-, *Nikolai*- and *Bockteich* – the latter within the boundaries of Miękinia village. This picture is complemented by a less detailed, older map devised by Ludwik Wilhelm Regler in 1764–1770, marking the existence of the *Birkteich* pond. Based on Regler's map, one should assume that most ponds were still in use at that date. The ponds' original surfaces are difficult to establish, with some suggestions provided by measurements carried out in the winter of 1852/1853 for then-concluded contracts (APWr., UK, file no. 4091). The 1852 listings include the coverage of fields, meadows, or ponds, and many names not specified in preserved maps. Aside from the above-mentioned ponds, we can see – *Albrechts*-, *Ernst*-, *Persicke*- or *Neue Mühlteich* (the earlier *Mühlteich* here bears the adjective “old” – i.e. *Alt*).

The total exploitable area of the ponds exceeded 66 ha (Table 1). We may locate only 11 out of the 12 ponds listed in the mid-19<sup>th</sup> survey. In most cases, the pond sizes from the survey are consistent with the contemporary measurements. The largest discrepancy concerns the *Staw Bukowy* (*Beech Pond*, *Bucketeich*) pond whose original size was smaller, although the survey specifies the area of fields inside it as over 10 ha. The fish ponds surrounded the castle from the north and west. We may only suspect that the ponds were set up in an order of decreasing proximity to the castle, which served as the management centre of the estate up to the early fifteen hundreds. For the next several centuries, the centre shifted to Kadłub, with the ponds outliving the motte-and-bailey castle by a large margin (i.e., up to the 18<sup>th</sup> century). It is possible that estate-managing operations moved to the Göbel demesne some 0.5 km southwest of the castle.



Fig. 5. Kadłub. Reconstructed borders of the Gärten estate based on the cadastral hand-made map prepared in the winter of 1852/53 showing the location of the motte and the ponds (source: APWr. UK, Ref. 4091; drawing by P. Duma)

Table 1. Ponds inside the borders of Garten and Göbel and their areas as measured in the winter of 1852/53. The figures are given in Rheinlaendischer Morgen and Rods Sq. (1 Morgen=180 Rods, 1 Rod=c. 14,8 m<sup>2</sup>) (after APWr. UK, file no. 4091; Szulc 1963, p. 50, add. 42)

No.	Name	Area (in Morgen/Rods Sq.)	Area (in ha)
1	Albrechtsteich	11/53	c. 3
2	Mittelteich	23/131	6.32
3	Alte Mühlteich	16/134	4.46
4	Ernststeich	4/106	1.22
5	Scheibeteich	13/26	3.50
6	Feldteich	30/143	8.20
7	Nikolaiteich	31/150	8.48
8	Olscheteich	30/174	8.24
9	Birkteich	37/60	9.94
10	Neue Mühlteich	5/39	1.38
11	Persicketeichel	5/38	1.38
12	Bucketeich	38/101	10.20
Total		249/75	66.32

### *Archaeological exploration of 2004–2007*

The site Kadłub/Garten was subject to initial archaeological research in 2004 (Fig. 6). This involved exploring the relics of a brick building sited on the top of the mound and revealed by a treasure hunter's trench. The results of this dig were later published (Czarniak, Marek 2005). In hindsight, we note the need to highlight certain issues and correct the dating of finds presented therein.

An important contribution to the general discussion on changes to the purpose of the motte-and-bailey castle would be determining the role of the rectangular brick building, as yet allusive (Fig. 6). The building in question was raised on an almost square base with sides ca. 2.5 m in length. The walls, with mortar made using well-slaked lime with high sand content, vary in thickness between 30 and 46 cm. The size of the bricks used for building it is 14 cm by 29 cm by 7 cm, which deviates from the medieval standard. Additionally, the bricks were laid in an irregular, modern pattern. The present height of the walls is 67 cm. Going by the mentioned features and the shallow foundation in unstable sandy soil, the building – classified as object no. 1 – was interpreted as relics of a modern era cellar (Fig. 7). It has been determined that it dates back to no earlier than the 17<sup>th</sup> century (Czarniak, Marek 2005, p. 254); naturally, this does not rule out the likelihood of its later dating.

As early as in 1936, amateur excavations at the castle by local youth were mentioned in a letter addressed to the *Landesamt für vorgeschichtliche Denkmalpflege* at



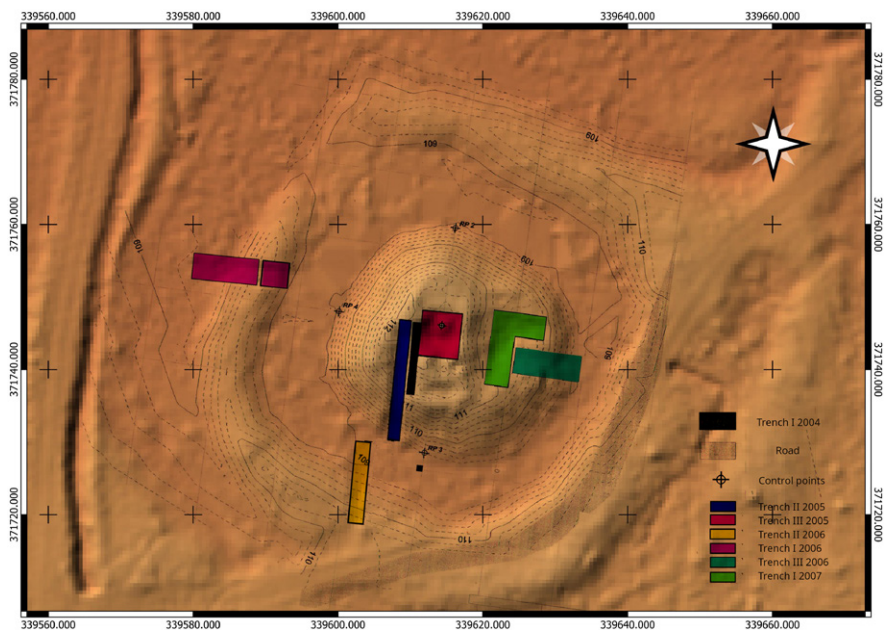


Fig. 6. Kadłub. Digital elevation model (DEM) with the location of archaeological trenches from 2004–2007 (based on ALS data from the Head Office of Land Surveying and Cartography, website: [www.geoportal.gov.pl](http://www.geoportal.gov.pl), file no. M-33-34-A-d-4-1-4, job no. DFT.7201.016.2019; visualisation by L. Marek)

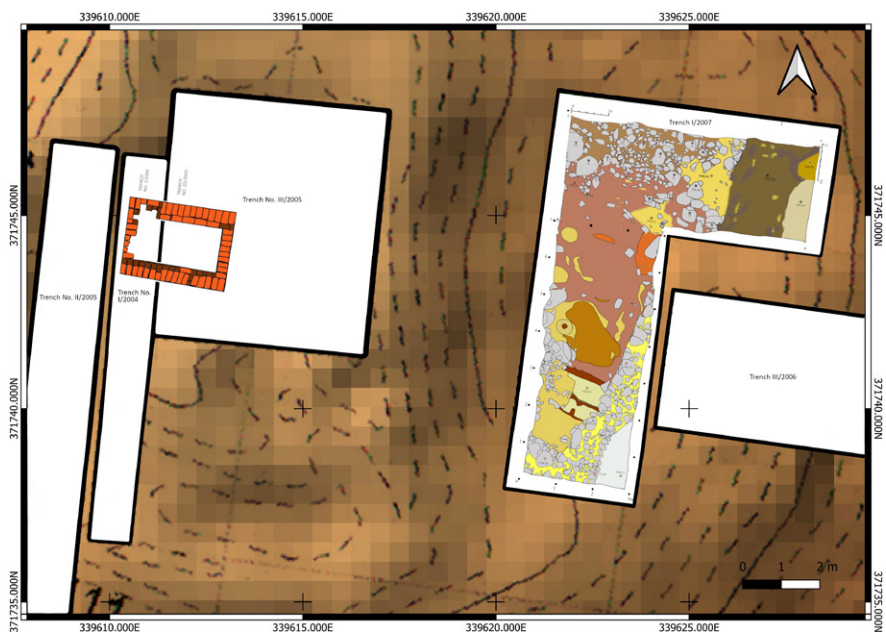


Fig. 7. Kadłub. Layout of the most relevant archaeological features on the motte's *plateau* (developed by L. Marek)

Wrocław (APWr., WSPŚ, file nos. 739, 541–542). Given the context of this building, the mentions of human bones, rooms, and underground passages which the above-mentioned “young people” allegedly discovered during their excavations sparked particular interest. The curiosity of local inhabitants was fuelled by the local legend about the “grave of Ritter von Köckeritz, in a water-ringed motte, containing much silver and gold treasure”, and which was located “somewhere around here” (APWr., WSPŚ, file nos. 739, 677; Kühnau 1929, p. 311). Supposedly, the grave had been robbed already. The von Köckritzs owned nearby forests until the mid-19<sup>th</sup> century (Knie 1845, p. 263). In an attempt to find the grain of truth in such stories, one may refer to motte-and-bailey castles that became mausoleums of local noble houses when no longer used for residential purposes. Examples of such transformations are documented at Rethwisch and Stöfs-Waterneversdorf in Holstein (Hinz 1981, p. 27, Ill. 16: 2–3).

Stratigraphic observations from lower portions of the exploratory trench no. 1 from 2004 (i.e., I/04), dug across the mound along the north-south axis (Figs. 6–8) concern the construction of the motte. It was probably raised on top of a timber-paved or mud-coated layer from decomposed wood and other organic matter which

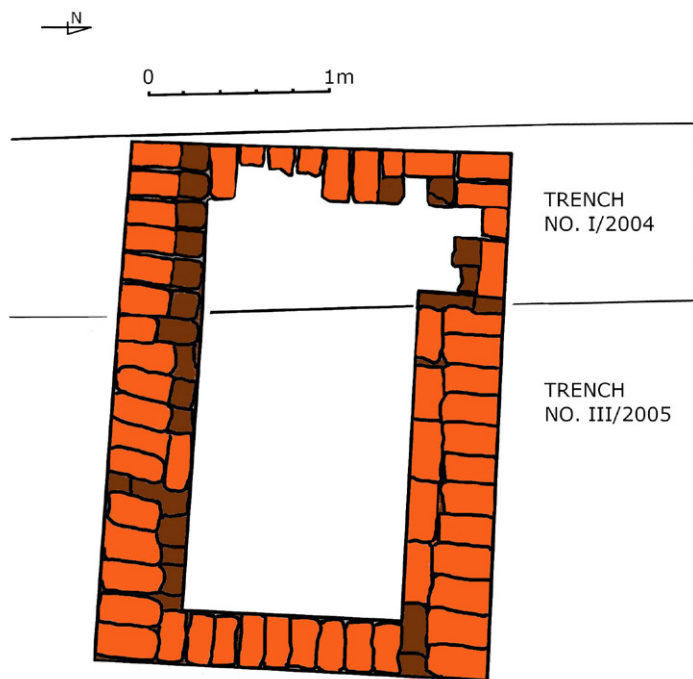


Fig. 8. Kadłub. Layout of brick building no. 1 located one metre south of the northern wall of trench no. I/2004 (drawing by L. Marek)

stabilised the loose, swampy soil. It was surrounded by a moat, the excavation of which also provided material for the low sandy platform elevated above the ground level (Czarniak, Marek 2005, pp. 253–259). Such a layer was also noted in trenches made in subsequent excavation seasons, hence it could be interpreted as having been formed in the castle's mound during intensive construction work – mostly related to wood-working (Fig. 9). The next construction phase probably involved compacting sand around the lowest storeys of these buildings, transforming them into cellars and raising the surface of the castle's motte. The exploratory trench revealed that the original stratigraphy of the site had been completely altered by the high number of trenches dug by treasure hunters.

The archaeological works of 2005–2007 aimed at exploring the construction of the mound, searching for remnants of a palisade and buildings expected to be found on the top of the mound. In 2005 and 2006, the largest quantities of particularly valuable late medieval materials were excavated from trenches II/05 and III/06. In the southernmost section of trench II/05, the already mentioned layer marking the original surface of the first phase of the motte's construction clearly identified the shape of the edge of the original motte (layer 6) (Fig. 9). Exploration of trench III/05 revealed the remnants of brick building no. 1 thus giving a full image of its floor plan (Figs. 8, 10). Overall, trench III/05 yielded very few artefacts compared to II/05, versus what might have been expected due to its size and depth – up to

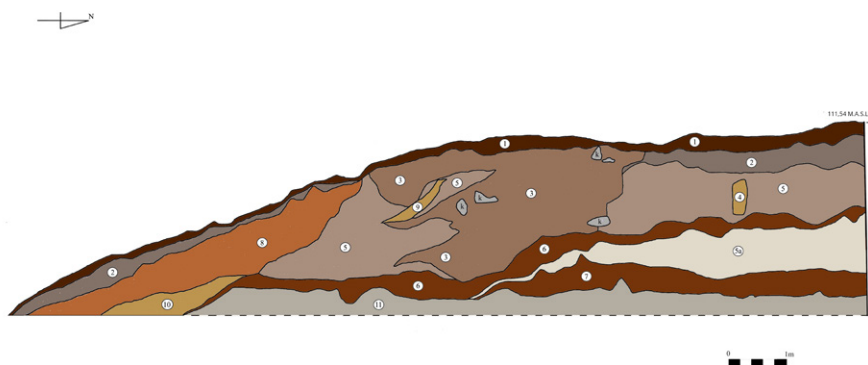


Fig. 9. Kadłub. Trench II/2005, western section. Layers: 1 – sod and brown humus containing pottery sherds; 2 – compact dark grey soil containing numerous pottery sherds and brick fragments; 3 – greyish brown soil mixed with brick rubble and erratic rocks; 4 – clay deposit fragment; 5 – grey sand deposit mixed with humus – second building phase of the motte – distorted by later trenches; 5a – light grey sand – first building phase of the motte; 6 – a thin brown layer of decomposed wood – the original surface of the first building phase of the mound; 7 – a thick brown layer of decomposed wood – a wooden platform on which the artificial mound was raised; 8 – dark brown sandy soil accumulated as a result of erosion, moat fill; 9 – a fragment of a yellow sand deposit; 10 – yellow compact clay; 11 – natural grey silt deposit; k – stone (drawing by K. Kolińska; developed by L. Marek)



Fig. 10.  
Kadłub. Trench  
III/2005, eastern  
section. Timber plat-  
form and the original  
surface of the motte,  
marked by deposits of  
brown humus from  
decomposed wood  
(photo by L. Marek)

4.2 m. However, III/05 yielded an interesting sequence of layers, confirming the previously adopted hypothesis. This trench revealed the existence of a thick layer of decomposed wood or other organic matter forming a base/platform and the original surface of the motte, marked by a line of brown humus (Fig. 10). The motte had been in major part destroyed, by treasure hunter's trenches, a large number of which were documented during the exploration of trench III/05.

The 2006 dig focused on exploring the stratigraphy of the late medieval ramparts. Two stages in their construction were identified. Trenches I/06 (Fig. 11) and Ia/06 – cutting across the ring of fortifications – provided a picture of the oldest phase of the castle construction; the rampart was a low, sandy mound with isosceles trapezoid cross-section (layers 6–8). The surface of the original construction phase of the rampart is marked with a line of brown humus (layer 6). The stratigraphic analysis suggests that the earthwork structure was simple, with neither timber nor stone framing. Only fascine lacing might have been used (layer 8), as suggested by the high content of twigs recorded in the strata. Pottery sherds do not provide grounds for chronological delimitation of the two construction phases of the ramparts. In 2006 more attention was given to the eastern section, i.e. the part of the motte least damaged by the treasure hunters' trenches. The western section of trench III/06 revealed a late medieval stone wall (Fig. 12), a relic of a building



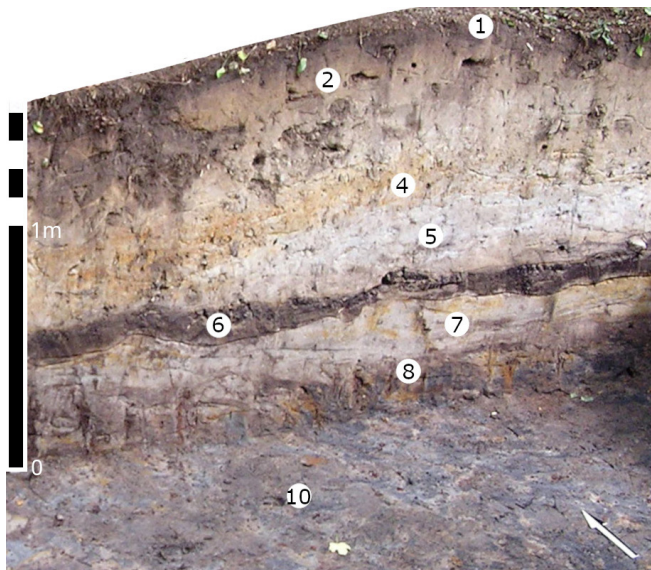


Fig. 11.  
Kadłub. Trench I/06, northern section stratigraphy of the rampart. Layers: 1 – sod; 2 – brown humus; 4 – a layer of compacted, orange clay – coating the rampart; 5 – white-grey sand mixed with clay second construction phase of the rampart; 6 – line of brown humus that marks the first construction phase of the rampart; 7 – white sand – the core of the rampart's first construction phase; 8 – white sandy deposit with fascine lacing hinted by twig-prints; 10 – natural alluvial deposit of grey silt (photo by L. Marek)



Fig. 12.  
Kadłub. Trench III/2006, the western section with the outer wall of building no. 2. Layers: 5a – a wall of cobbler stones bound with yellow clay; 6 – a layer of loose, brown humus from decomposed timber paving of the original motte surface (photo by L. Marek)

from when the castle was inhabited. This building was raised on the surface of the older construction phase, i.e. on the thin layer of loose, brown humus. This 1.3 m tall wall was constructed using erratic rocks bound with yellow clay (Fig. 12). One should note that trench III/06 yielded artefacts in numbers incomparable to any other previously explored area, probably also because it reached the moat naturally used for depositing garbage.

The 2007 season aimed at unearthing buildings located in the western part of the castle mound and establishing the course of the wall previously discovered in trench III/06. Two corners of a building constructed of erratic rocks recorded as object no. 2 were documented. The highest number of artefacts was found in layers related to the building, including metal objects of great relevance for dating. Object no. 2, systematically uncovered during the exploration of layers in trench I/07, was identified as the foundation of a rectangular building, of some 10 m in length, most probably a timber-frame structure, oriented NE–SW. Such a construction technique is a characteristic feature of, e.g., the so-called Transitional Type Castles in Silesia (Boguszewicz 1998, p. 104).

Relicts of light structures with construction features identical to those discovered at Kadłub were found at motte-and-bailey sites across Europe (e.g., Murray *et al.* 1993, p. 128). In trench I/07 (Figs. 13–16), three groups covering 19 strata were distinguished. One group consists of layers associated with the construction and use of object no. 2 (layers 3–7, 11–12, 16–18). The second includes layers associated with the raising of the motte and the forming/shaping of its surface (layers 1 and 2). The third category of layers encompasses the treasure hunters' trenches (layers 8, 14, 15, 19). The subsoil was assumed to be a layer of alluvial grey silt with iron intrusions (layer 1). Above it, we find the layer of brown humus (layer 2), interpreted as the surface of the original motte i.e. before it was raised further. A fragment of a stone floor (layer 9) – probably the floor of a cellar – was embedded in this layer. Immediately above the stone floor, we note prints of floor beams (layer 16). The building walls were likely coated with yellow daub (layer 6). Significant quantities of yellow clay are interpreted as coming from the walls and the stove. The latter's base probably consisted of floor bricks discovered in the southern section of the trench. The presence of similar yellow clay mortar/binding was registered in the northern segment of the castle, clearly marking the limits of the missing fragments of the cobbler stone foundation wall. The northern part of feature no. 2 is filled with a layer of ash mixed with clay fragments and brick shards, with numerous metal finds and pottery from the 2<sup>nd</sup> half of the 15<sup>th</sup> century (layers 3 and 4). This level also includes a disturbed layer of brown, sandy clay (layer 5), associated with wall debris, which held numerous artefacts.

Various stone foundations were built directly on top of the thick humus layer marking the surface of the first construction phase, to bear timber-frame construction buildings filling the bailey. The stone foundation no. 2 then had its



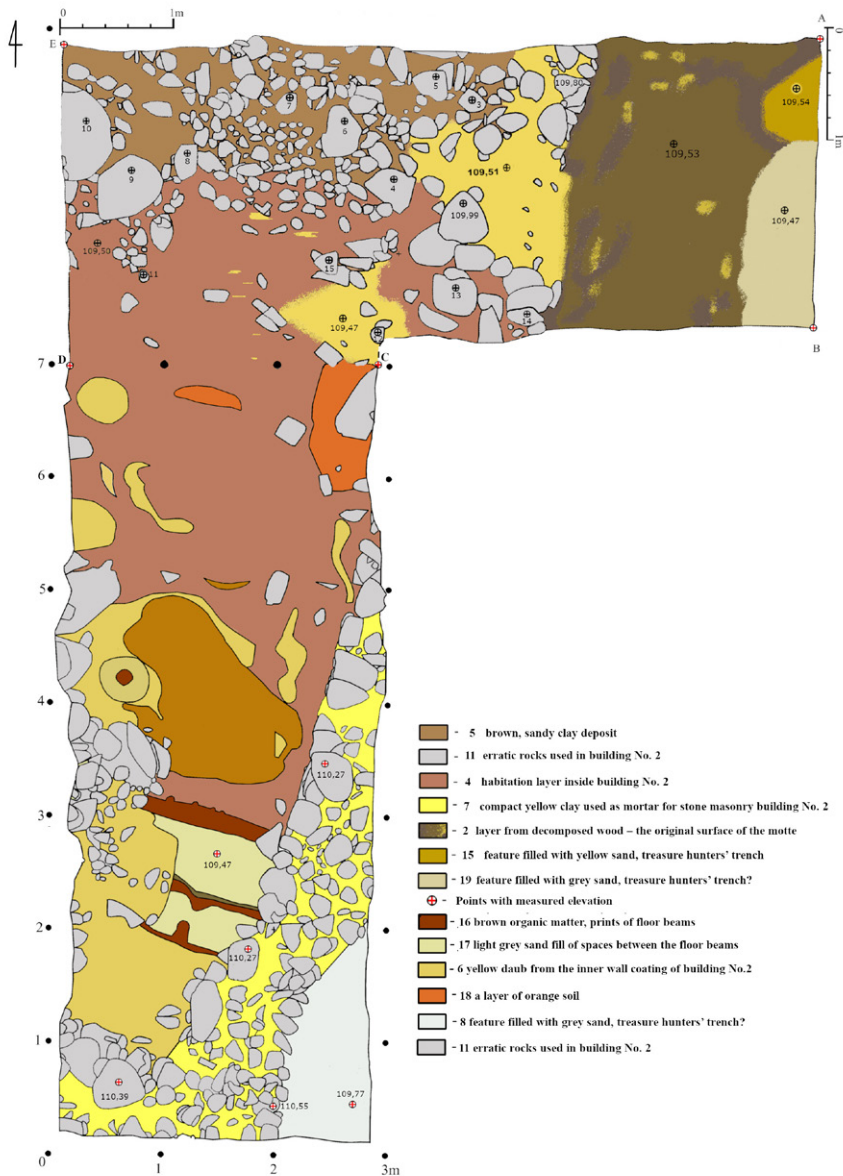
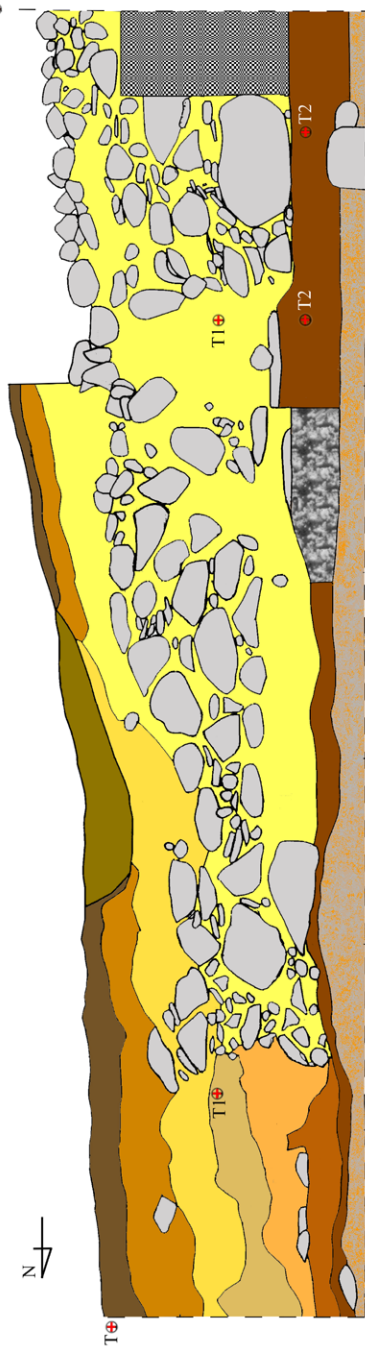


Fig. 13. Kadłub. Trench I/2007. Control points with an elevation value M.A.S.L. 1 – 109,99; 2 – 109,80; 3 – 109,93; 4 – 110,13; 5 – 109,96; 6 – 110,17; 7 – 110,02; 8 – 110,06; 9 – 110,15; 10 – 110,27; 11 – 109,96; 12 – 109,49; 13 – 110,06; 14 – 110,05; 15 – 109,94; A – 109,53; B – 109,55; C – 109,49; D – 109,46; E – 109, 59. Archaeological layers: 5 – brown sandy clay deposit; 11 – erratic rocks used in building no. 2; 4 – habitation layer inside building no. 2, soil containing brick fragments mixed with clay and ashes; 7 – compact yellow clay used as mortar for stone masonry building no. 2; 2 – layer from decomposed wood – the original surface of the motte; 15 – feature filled with yellow sand, treasure hunters' trench; 19 – feature filled with grey sand, treasure hunters' trench (?); 16 – brown organic matter, prints of floor beams; 17 – light grey sand fill of spaces between the floor beams; 6 – yellow daub from the inner wall coating of building no. 2; 18 – a layer of orange soil; 8 – feature filled with grey sand, treasure hunters' trench (?); 11 – erratic rocks used in building no. 2 (drawing by A. Wilczyńska and A. Dzienis; developed by L. Marek)



⊕ - Points with measured elevation M.A.S.L.

⊕ T - 110, 33

⊕ T1 - 109, 77

⊕ T2 - 109, 30

⊕ T3 - 110, 80

■ - 1 alluvial grey silt

■ - 2 layer of brown humus, original motte

■ - 3 layer of brown organic matter mixed with clay, distorted by treasure trove hunters' activity

■ - 4 habitation layer inside building No. 2, soil containing brick fragments mixed with clay and ashes

■ - 5 brown sandy clay deposit

■ - 6 yellow daub from the inner wall coating of building No. 2

■ - 7 yellow clay used as mortar for stone masonry building No. 2

■ - 8 feature filled with grey sand, treasure hunters' trench?

■ - 9 fragment of a stone floor

■ - 10 Southeastern wall of building No. 2

■ - 11 erratic rocks used in building No. 2

■ - 12 brown humus

■ - 13 sod

■ - 14 feature filled with brown soil, treasure hunters' trench

Fig. 14. Kadlub. Trench I/2007, eastern section. 1 – alluvial grey silt; 2 – a layer of brown humus, original motte; 3 – a layer of brown organic matter mixed with clay, distorted by treasure trove hunters' activity; 4 – habitation layer inside building no. 2, soil containing brick fragments mixed with clay and ashes; 5 – brown sandy clay deposit; 6 – yellow daub from the inner wall coating of building no. 2; 7 – yellow clay used as mortar for stone masonry building no. 2; 8 – feature filled with grey sand, treasure hunters' trench (?); 9 – a fragment of a stone floor; 10 – southeastern wall of building no. 2; 11 – erratic rocks used in building no. 2; 12 – brown humus; 13 – sod; 14 – feature filled with brown soil, treasure hunters' trench (drawing by A. Wilczyńska, W. Liber and M. Merkulowski; developed by L. Marek)



Fig. 15. Kadłub. Trench I/2007, a fragment of a stone floor inside building no. 2 (photo by L. Marek)



Fig. 16. Kadłub. Trench I/2007, building no. 2 (photo by L. Marek)

external walls covered with sand, thus turning it into a cellar. The presented hypothesis about the various phases of the castle construction explains well the two-segmented motte discovered during the previous excavation seasons. The two phases of construction, characterised by the presence of identically dated archaeological records, are separated by a layer of loose brown humus (layer 2). The absence of distinct chronological succession between the two phases suggests that the motte was entirely raised during two stages of a single construction effort at minimum time intervals. Mobile artefacts point to the buildings inside the castle being used during the 2<sup>nd</sup> half of the 15<sup>th</sup> century and possibly in the early 16<sup>th</sup> century, too.

#### Dendrochronological analysis

The wood items gathered during all the seasons when the moat was explored were subjected to a dendrochronological analysis. Marek Krąpiec examined 36 samples. Only six fir fragments could be dated using dendrogram comparison. In a single case – due to the presence of an under-bark ring, it was possible to determine the year when the tree had been cut down – 1335. For the other five samples, only *terminus post quem* dating was possible, yielding the following results: after 1335, after 1431 (two samples), and after 1432 (two samples). Unfortunately, determining the age of the wood used during the time when the castle was inhabited fails to provide any more data on the chronology of the settlement at the site. The analysed artefacts were mainly wooden plank fragments from the castle moat. Bearing in mind that stockpiling and recycling of timber by builders of castles was a common practice (Crone 2008, pp. 11–12), the raising date of Kadłub is elusive, and cannot be based only on a few random ring-tree dates of samples taken from the moat.

#### Analysis of the material culture

The 2004–2007 excavations narrowed down the period when the castle was inhabited in the late medieval phase to mainly from the 15<sup>th</sup> to the early 16<sup>th</sup> century. A prominent find among the artefacts is a collection of 23,889 pottery sherds. It is a concise/compact corpus, in chronological, technological, and formal terms. Initially, this corpus was dated to the 16<sup>th</sup> century (Czarniak, Marek 2005, p. 257), as a result placing the inhabitation of the castle to the turn of the 17<sup>th</sup> century (Czarniak, Marek 2005, p. 259). In the light of further research and cross-examination with other sources, our opinion is that this chronology should be revised, with the settlement phase of the castle being moved to the period from the mid-15<sup>th</sup> up to the early 16<sup>th</sup> century.

The collected sherds represent kitchenware and are predominantly light-sandy, white and brick red. It is wheel thrown, from fine-grained sand-tempered clay, and



oxidation fired (Stoksik, Rzeźnik 2008, p. 181). That last feature pertains to the entire corpus. No sherds of reduction-fired pottery, present at older sites have been identified in Kadłub. One can boldly ascertain that these are statistically irrelevant as none have been recorded at Garten. In Silesia (including the most important pottery production centre, Wrocław), all archaeological deposits dating to the 14<sup>th</sup>–early 15<sup>th</sup> century usually contain a considerable share of greyware (Niegoda 1999; Szajt 2021, p. 38). A characteristic feature of late ceramic contexts dated to the latter half of the 15<sup>th</sup> and early 16<sup>th</sup> century is the significant prevalence of glazed pottery and oxidation-fired ware (Niegoda 1999; Szajt 2021). The absence of greyware in the collection of sherds from Kadłub prompts us to date the entire ceramic context mainly to the latter half of the 15<sup>th</sup>–early 16<sup>th</sup> century. The corpus was divided into three categories: 1 – non-glazed; 2– red-white, painted (the least numerous); 3 – yellow, glazed. The last category includes also fragments of pottery with interior amber-coloured glazing. This technology is used – i.e. for water tightness and not for decorative purposes. Well-fired, red-painted pottery from white clay is known from the 14<sup>th</sup> century, yet its popularity extends into the 16<sup>th</sup> and early 17<sup>th</sup> century.

The corpus of pottery fragments shows high consistency with material excavated from other motte-and-bailey castles in Silesia. Similar forms have been observed among artefacts from Olszanica, with a well-documented *terminus ante quem* of 1512 (Bober-Tubaj *et al.* 2005, pp. 18–23). However, the point of reference for pottery from Kadłub should be Wrocław, as it is the nearest and largest local centre of pottery making. The examined collections of “rural pottery” from Silesia differ occasionally in technological details from that excavated at Kadłub. The late medieval corpus from the village of Rusko can serve as a good example of this (Rzeźnik, Trzciński 1996, pp. 303, 312). The excavated pottery fragments may be classified by their technological features as belonging to groups C and E suggested by scholars for late medieval pottery from Lower Silesia (Niegoda, Piekalski 1997, p. 172). We note fragments of internally glazed pipkin skillets (Fig. 17: a), as well as similarly internally glazed baking moulds (Fig. 17: b). Other well-represented forms are simple pots with round cross-section rims (Fig. 18: b–c), lids (Fig. 18: d), pitchers and other vessels with high, bevelled rims (Fig. 18: a). Three vessels are fully preserved – these being small oxidation fired cups of a shape typical for the turn of the 15<sup>th</sup> and 16<sup>th</sup> century (Fig. 18: e).

The second largest group of chronologically sensitive artefacts are highly fragmented unglazed Gothic stove tiles (573), which also may be dated to the 15<sup>th</sup>–early 16<sup>th</sup> century. These include sherds of spherical tiles that once formed the stove’s dome. Other forms of stove tiles are the simple pot-shaped tiles with rectangular mouths, including one fully preserved (Fig. 17: c). Particularly notable are stove tiles with Gothic decoration motifs (see analysis of stove tile decorations) (Fig. 19). In the southern part of trench I/07, next to the wall of object no. 2, floor bricks

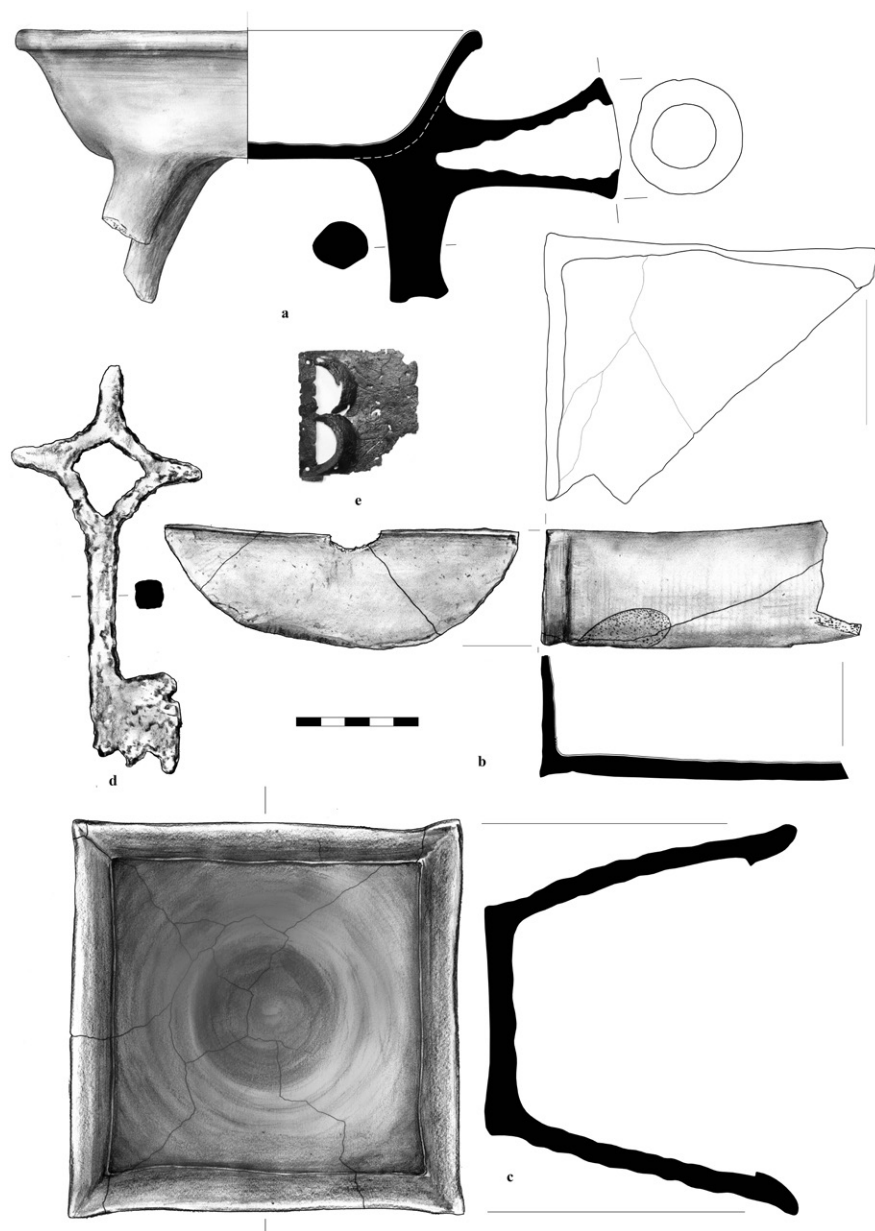


Fig. 17. Kadłub. A selection of finds: a – internally glazed pipkin skillet (trench III/2006, layer 6); b – internally glazed baking mold (trench I/2007, layer 6); c – pot-shaped stove tile with a rectangular mouth (trench I/2007, layer 3); d – key, iron (trench III/2006, layer 2); e – belt mount, copper alloy (trench III/2006, layer 1) (a–d – drawing by N. Lenkow; e – photo by L. Marek)



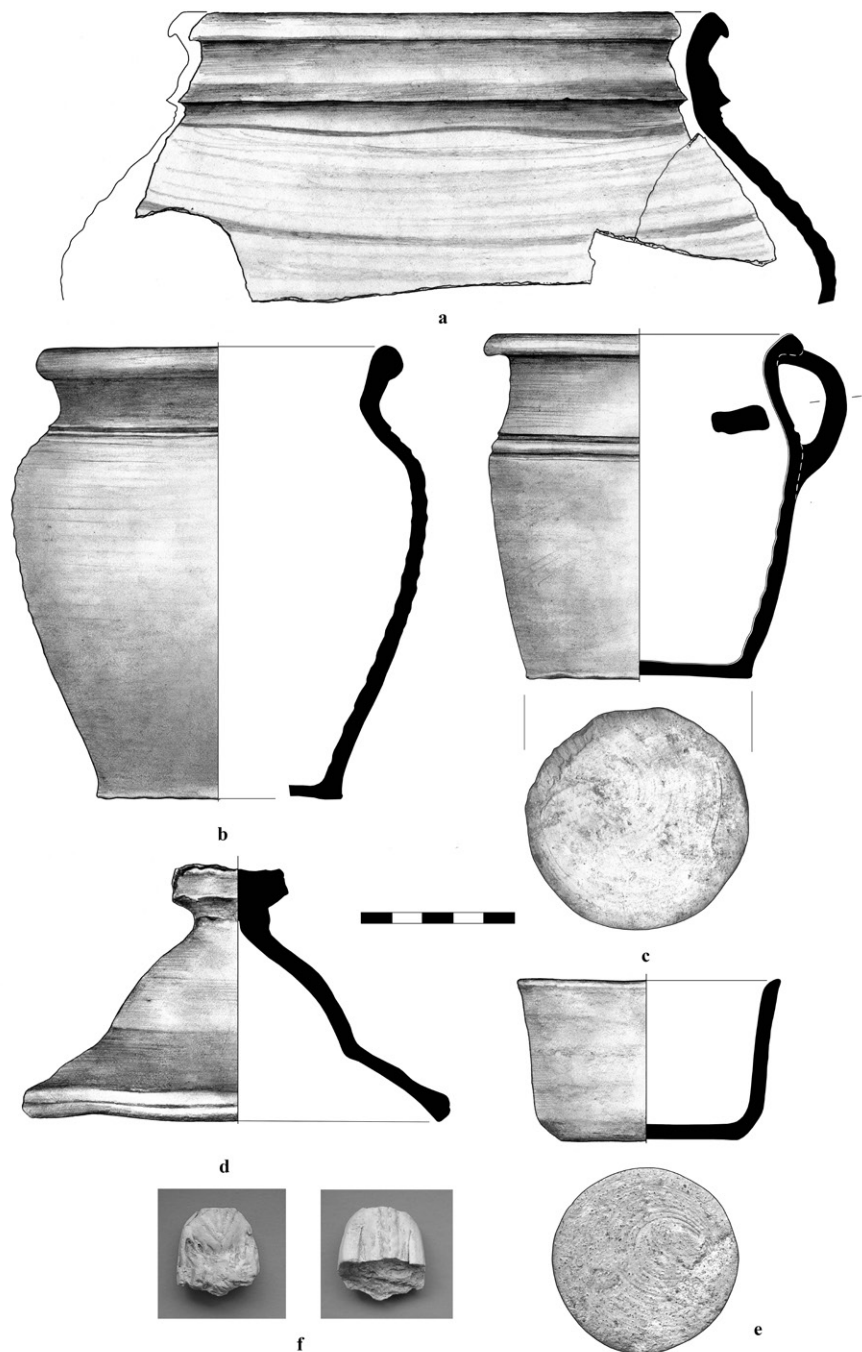


Fig. 18. Kadłub. A selection of ceramic finds: a – red painted white oxidation fired ware (trench III/2006, layer 6); b–c – pots with round cross-section rims (trench III/2006, layer 6); d – lid (trench III/2006, layer 6); e – oxidation fired cup (trench II/2005, layer 8); f – a fragment of a woman's clay figurine (trench II/2006, layer 3) (a–e – drawing by N. Lenkow; f – photo by L. Marek)

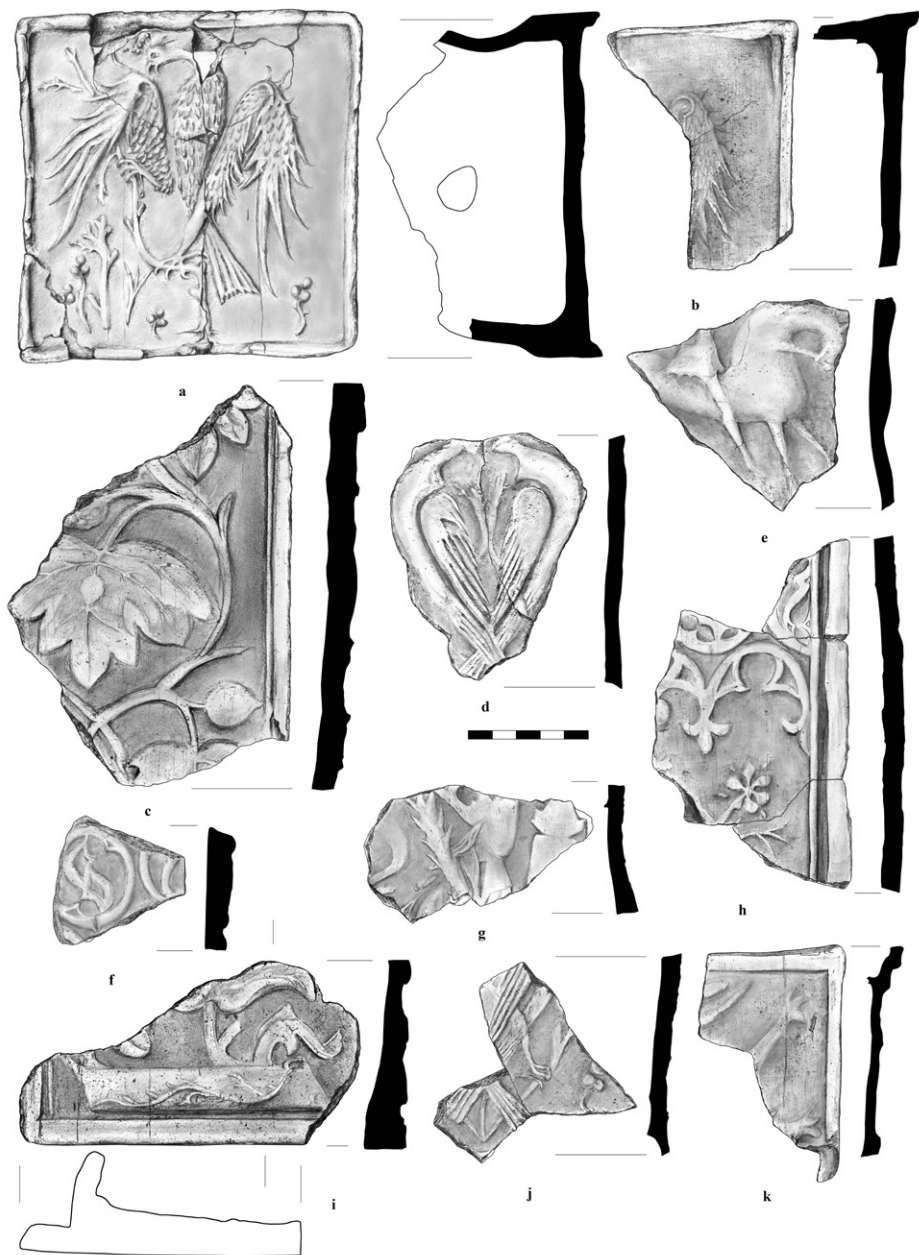


Fig. 19. A selection of stove-tile decorative motifs. a – Wrocław, Więzienna Steet; b–k – Kałub, 15<sup>th</sup> century: a – peacock; b – peacock's wing from the same mould as "a" (trench I/2007, layer 3); c – grapevine (trench I/2007, layer 2); d – heart formed by two addorsed birds (trench II/2005, layer 2); e – mounted knight grapevine (trench II/2005, layer 2); f – gothic tracery with letter S, surface find; g – Saint Barbara (trench III/2006, layer 2); h – gothic tracery window (trench I/2007, layer 3); i – grapevine (trench I/2007, layer 2); j – a fragment of a heart formed by two addorsed birds (trench I/2007, layer 2); k – an unidentified beast, surface find (a – drawing by A. Sztromwasser, b–k – drawing by N. Lenkow)

were encountered alongside stove-tile sherds – these probably were used for the construction of the stove base foundation.

Among pottery sherds from the distorted layers, we note two spindle whorls and the stummel of a smoking pipe from the mid-18<sup>th</sup> century made at the Zborowskie workshops (Zimmermann 1994, p. 55, Table XV). A distinct find comes from trench II/06 (layer 3) – a fragment of a clay figurine of a woman wearing well-discernible mid-15<sup>th</sup> century clothing, specifically, a houppelande dress with a triangular décolletage (Fig. 18: f), which at that time was at the peak of its popularity (Turska 1987, pp. 156–157). Owing to the fragmented state of the figurine, it cannot be determined whether it is of a religious or secular nature. Figurines of this sort were confirmed to have been manufactured in Silesia by artisans – in Western Europe called *Bilderbäcker* (Borkowski 2004; Adamska 2013, pp. 147–148).

Glass artefacts are represented by a fragment that bears characteristic prunts, probably a remnant of a flute goblet (Biszkont 2005, pp. 32–35). The vessel was blown from wood-ash potassium-calcium forest glass. A chemical composition analysis of the artefact was carried out by Krzysztof Sadowski, at the Geology Department of the University of Warsaw using a CAMECA SX 100 electron microprobe. He determined the glass was made on a forest glassmaking site in Silesia, Czechia, or South-West Germany (Table 2).

A highly corroded fragment of a vessel's bottom, probably also from a flute-shaped goblet, was found in trench III/06. Other glass artefacts are difficult to unquestionably assign to the late medieval phase of the site's settlement.

Most of the 485 excavated, heavily corroded metal artefacts can only be approximately dated to the time when the castle was inhabited. In a few cases, it was possible to determine their original function. The identified objects include a fragment of a horseshoe, a bronze double frame buckle, a fragment of a wood drill, a crossbow bolthead, or the key from trench III/06 (Fig. 17: d). The key's diamond-shaped bow is characteristic of keys dated in Europe to a period from the 11<sup>th</sup> to the end of the 15<sup>th</sup> century (Kola 1985, pp. 63–67; Biddle 1990, pp. 1028–1031; Buško, Bresch 2001, pp. 111, 120, Ill. 31; Goodall 2011, pp. 272–277, 280–281, 284–285). A datable artefact is a bronze, rectangular belt fitting, decorated with two openwork half-crescents and engraved ornament (Fig. 17: e), matching specimens found in Silesia, Bohemia, Moravia, and Slovakia (Wachowski 2005, p. 150, Ill. 4; Piekalski, Wachowski 2009, p. 417, Ill. 12). One of the earliest dated fittings of the type is an example from the 14<sup>th</sup>–century grave at Ducové in Piešťany District in Slovakia (Ruttikay 1979, pp. 120, 146). Another item with well-documented chronology is the find from the Vizmburk Castle, Trutnov district (Piekalski, Wachowski 2009, Ill. 12: d; Boguszewicz 2015, Ill. 26: b). The upper date for the time when the fortress was destroyed is 1447 (Fiala *et al.* 1989, p. 530). We know of two other similar fittings from the 15<sup>th</sup> century found at Pekařska Street in Brno (Antonín Malaníková *et al.* 2013, p. 349, Ill. 176: 8–9). Finally, a recently

Table 2. Chemical composition of analysed glass shards (developed by K. Sadowski)

Oxides/ test no.	#1	#2	#3	#4
K <sub>2</sub> O	16	15.858	15.812	16.038
CaO	16.829	16.882	16.539	16.657
P <sub>2</sub> O <sub>5</sub>	1.048	1.039	1.011	1.138
PbO	0.049	0.057	0	0
Cl	0.029	0.035	0.027	0.038
Ag <sub>2</sub> O	0	0.005	0	0
SnO <sub>2</sub>	0	0	0.009	0
SO <sub>3</sub>	0.283	0.304	0.294	0.357
Sb <sub>2</sub> O <sub>5</sub>	0	0	0	0
BaO	0.253	0.268	0.226	0.243
Cr <sub>2</sub> O <sub>3</sub>	0	0	0	0.003
Na <sub>2</sub> O	0.228	0.257	0.271	0.223
SiO <sub>2</sub>	60.168	59.943	59.968	59.917
Al <sub>2</sub> O <sub>3</sub>	0.985	0.978	0.954	0.965
MgO	2.978	3.039	2.919	2.904
As <sub>2</sub> O <sub>3</sub>	0	0	0	0
SrO	0.022	0	0.024	0
Fe <sub>2</sub> O <sub>3</sub>	0.221	0.207	0.313	0.276
MnO	0.812	0.857	0.792	1.014
CoO	0.007	0	0.048	0.030
NiO	0.094	0.009	0	0.027
CuO	0.050	0	0	0
ZnO	0.213	0	0	0.161
TiO <sub>2</sub>	0.066	0.095	0.074	0.038
Total	100.336	99.833	99.283	100.031

excavated matching belt element – closest to the one from Kadłub in terms of form and ornament – was found in the latrine at św. Katarzyna Street 3/4 in Wrocław (feature 89) and dated to mid-15<sup>th</sup>– the turn of the 17<sup>th</sup> century.

Among the metal items excavated in trench I/07, particular attention should be paid to a silver Prague Grosch minted under Wenceslaus IV (Duma, Paszkiewicz 2010, pp. 97–98). The context of this find is of a special note. The coin might have been placed under the sill beam “for good luck” when the construction works were commenced. Coins used as “foundation offerings” or so-called foundation deposits are often encountered among relics of buildings from various periods (Merrifield 1988, pp. 124–125). They are still recorded by ethnographic sources in the 19<sup>th</sup> century as apotropaic deposits placed underneath the corners of buildings (Benedyktowicz, Benedyktowicz 2022, pp. 65, 68). In the discussed case, the

worn coin cannot be treated as an artefact relevant for establishing a fine-grained chronology of the entire archaeological context. As a foundation deposit, it sets a *terminus post quem* and could have been deposited several decades after minting. The fragment of a medieval wooden plate, turned on a lathe on both sides, found in the moat in trench II/06 is one of the few wooden artefacts with an identified purpose.

The collection of artefacts does not seem to differ much from those found at similarly dated motte-and-bailey castles in Poland (Horbacz 1991, pp. 149, 155–156) showing similarity with the finds from Wrocław.

### Depictions on stove tiles and their allegoric meaning

The analysis of the stove tiles suggests that their iconography was thoroughly planned and was intended to communicate an ideologically consistent message. The most common motif on the sherds excavated in the course of the several archaeological seasons is grapevine (Fig. 19: c, i). In the culture of medieval Europe, the grapevine had a deep allegorical meaning, as it was associated with the Eucharist and the “divine drink of life”, i.e., wine (Forstner 1990, p. 180). Christian art is full of depictions of birds pecking at wine grapes, which are an allegory of “divine food for earth-bound Souls, offered during the Lord’s Supper, and then again during the Afterlife” according to Dorothea Forstner (1990, p. 183). Although not as explicit at first glance, the motif of a heart formed by the wings of two birds perched on young boughs growing out of a tree at an acute angle (Fig. 19: d, j) corresponds well in our opinion with the allegory represented by the grapevine. The birds are addorsed, yet their heads and slightly open beaks are turned towards each other. In heraldry, the pose the birds are shown in is termed *regardant adossés* (addorsed regardant). An identical composition, probably made from the same mould, is recorded on the best-preserved specimen from an analysed 15<sup>th</sup>-century collection of stove tiles excavated at Więzienna Street in Wrocław (Dymek 1995, Table X: e). The new, additional sources encourage a more detailed analysis. An almost identical scene with birds in a heart-shaped antithetic arrangement shown roosting on a tree and eating its fruit was discovered on an early 16<sup>th</sup>-century stove tile from the abbot’s chambers at the monastery at Neuzelle in Brandenburg (Krabath, Richter 2014, Ill. 1: 2). An analogous composition showing birds with crossed tails is known from Mesopotamian art from Antiquity up to the Sassanid Era (Wulff 1918, p. 251, Ill. 94). It may also be seen in the 12<sup>th</sup>-century Islamic art (Bosselmann-Ruickbie 2010, p. 220). It is likely that contacts with the Middle East led to the growing popularity of this motif in Byzantine Art. This supposition is supported by an argument (Bosselmann-Ruickbie 2010, p. 220, Ill. 34) pointing to the capitals of Romanesque columns, with birds in identical arrangement, perched on grapevines (Wulff 1918, pp. 249–250, Ill. 91–92). Similar depictions are found in Romanesque architecture

ornaments in Italy (Ashley 2002, p. 29). A salient role in the propagation of the analysed motif in European art was played by expensive textiles imported from Middle Eastern, Islamic and Byzantine territories (von Falke 1922, p. 31, cat. no. 277). The 13<sup>th</sup> and 14<sup>th</sup> centuries saw a dramatic growth in the local European production of fabrics such as brocade and silk, e.g., in Paris or Regensburg, with some bearing the scene discussed above (von Falke 1922, pp. 28–29, cat. no. 244, 262).

Jewellery is another category of items serving as a medium for distributing the aforementioned iconographic motif. A 13<sup>th</sup>-century Byzantine hoard from Thessalonica, Greece, contained golden bracelets with clasps depicting addorsed birds with crossed tails flanking the Tree of Life (Bosselmann-Ruickbie 2010, pp. 219–220). Golden, enamelled earrings with analogous scenes found in the Kievan Rus and dated to the 11<sup>th</sup>–12<sup>th</sup> century are of Byzantine origin, likewise (Brown 1997, pp. 309–311). The scenes on such earrings sometimes depict birds in the same heart-like arrangement and flanking the Tree of Life, and at other times, sirens with bodies of birds and human heads identified with Holy Martyrs (Brown 1997, p. 310). This motif spread in the applied arts in the medieval Europe north of the Alps. Its high popularity is evidenced by 13<sup>th</sup>- and 14<sup>th</sup>-century ceramic floor tiles from the Abbeys of Chertsey and Titchfield in England (Green, Green 1949, p. 26, cat. no. 27, diagram 1, no. 1–1a). It is quite likely that the designs on these tiles were inspired by those found in tapestries. A scene with birds with entwined tails flanking a schematically depicted Tree of Life on a reliquary casket from the Hohenzollern-Sigmaringen collection, dated to 1440–1460, is particularly close in terms of chronology and form to the scene depicted on the stove tiles from Kadłub and Węzienna Street in Wrocław (Hefner-Alteneck 1866, pp. 22–23, Table 31). The appearance of the birds lends credence to their identification as doves, which would conform with the general identification of this species – as depicted in the above-mentioned Byzantine architectural ornament. Nevertheless, the birds are also hypothesised to be peacocks or parrots (Wulff 1918, p. 250). The identification of the bird species is of fundamental importance for the understanding of the analysed scene. There is a broad consensus that the more-or-less schematic floral motif discussed here represents the Tree of Life – a universal concept highly relevant in the symbolism of the Christian world. However, when combined with a pair of doves in a heart-like antithetic arrangement, it seems to resemble a specific variant of the Tree of Life – well known from numerous medieval copies of the *Physiologus*, namely, the *Peridexion* (Błaszczuk 1997, pp. 32–33, Kobielski 2002, p. 106). According to the Aberdeen Bestiary (64v) that draws upon the *Physiologus*, doves like to eat fruit from a tree growing in India known as the *Peridexion* (*Perindes*). A dragon lurks nearby and despises the shadow cast by the tree; for this reason, the doves feel safe under its canopy. However, when they venture outside the canopy or the shadow it casts, they are devoured by the dragon. The Bestiary lays out the Trinitarian allegory of this tree, which is identified with



God, its shadow with Christ, and the fruit with the Holy Spirit. The author of the Bestiary argues that those who received the gift of the Holy Spirit – the symbolic dove – will not be separated from the Father, Son, and the Holy Spirit, and that neither the dragon nor Satan will harm them as they would not dare approach them at all (Aberdeen Bestiary, 65r–v). The heart-like arrangement of the analysed scene is known from 13<sup>th</sup>-century miniatures specifically depicting the *Peridexion* tree (Yapp 1987, Ill. 12). In the 14<sup>th</sup> century *Bodleian Library Bestiary* (MS. Douce 88, Folio 22r), in the centre of the composition illustrating the *Peridexion* tree, the painter depicted a pair of doves eating fruit off the tree, their tails entwined. Scholars looking for a real-life example of such a scene point to a bird species from the Columbidae family, the *Treron* (i.e., the green pigeon), whose range includes Eurasia and Africa, and which feeds on tree-growing fruit (Yapp 1987, p. 193). It is possible that as early as in the Medieval Age, they were misidentified as parrots due to their bright green plumage; hence, depictions of this species in Art are difficult to interpret.

To summarise the above discussion, we may conclude that the stove tiles show a *pars pro toto* scene involving the Tree of Life – *Peridexion*. The tiles present the fruit in a conventional style, similar to the mentioned Sigmaringen reliquary casket. It is likely that on one of the stove tiles found on the surface of the motte and bailey castle in Kadłub, a griffon or lion was depicted, with paws and part of a snout visible (Fig. 19: k). Owing to the fragmentary state of this sherd, we have no certainty whether it was part of the iconographic programme of the stove or not. The depicted beast, however, would correspond well with the idea of the *Peridexion* and the representation of the powers of Evil. We harbour similar uncertainty concerning a fragment of a wing (Fig. 19: b), probably identical to that of the bird from one of the 15<sup>th</sup>-century tiles from Więzienna Street in Wrocław (Fig. 19: a) (Dymek 1999, p. 47, Ill. 11: e). The opinion of scholars investigating that site is that the depicted bird is a crowned eagle with spread wings. On the other hand, the bird in question seems to bear more similarity to the conventional medieval manner in which artisans depicted peacocks with their characteristic crests (Kaufmann *et al.* 1994, pp. 156–157, cat. no.127). According to medieval bestiaries, a peacock symbolised a man praiseworthy for his actions, yet condemnable for his pride. In early medieval art, peacocks drinking from a well with Water of Life or eating grapes represented Saved Souls in Paradise (Kobieliński 2002). The peacocks on the tiles from Więzienna Street and from Kadłub – probably made using the same mould – would match the allegory of the *Peridexion* tree. In both cases, the stoves convey an illustrated sermon of sort, reminding viewers of the need for making continuous efforts to ensure one's salvation. In this context, the reliquary casket from Sigmaringen is of special interest since – aside from the already mentioned doves with crossed tails around the schematically depicted Tree of Life, birds holding grapevine in their beaks (same as those depicted separately on the above-discussed stove tiles) – we

also note the presence of a peacock. This could point to a universal allegoric scheme repeated across many works of art.

No major interpretation issues were raised by a stove tile fragment with Saint Barbara (Fig. 19: g) shown with general attributes of a martyr – a crown and a palm branch (Zieliński 1959, p. 313), and her mark – a tower. In the Middle Ages, she was one of the most venerated Holy Virgins (*Virgines Capiales*). Saint Barbara was considered the patroness of all sorts of fortifications, walls, and towers. She was the saint that protects from fire and lightning (*Lexikon* 2004, vol. 5, p. 306). For this reason, the presence of her likeness on an implement that was under an ongoing fire hazard in a dwelling structure at a fortified site is self-explanatory.

Due to the fragmentary preservation of the tile sherd from Kadłub, it is impossible to discern whether the theme conveyed by means of the depiction of a mounted knight (Fig. 19: e) in a stretched-legged Gothic riding manner is secular or religious. The image of Saint George as the patron of the struggle against Evil seems consistent with the analysed allegoric message of the art on the castle's stove. Almost an identical tile showing Saint George fighting the dragon, albeit glazed, was found at Ujazd near Tomaszów Mazowiecki (Garas 2010, p. 184, Ill. 1:1).

Another noteworthy motif is one inspired by monumental architecture, seen on three tile sherds from the site. This is a Gothic tracery biforia window with a quatrefoil (Fig. 19: h) inscribed with the letter "S" in Gothic minuscule (Fig. 19: f). Inside the biforia window, there is a rose bush with six-petalled flowers (Fig. 19: h). The tracery includes a late Gothic flamboyant style motif of flamelike S-shaped curves (Fig. 19: h, f). Matching architectural ornaments may be found on many 15<sup>th</sup>-century European tiles (Schnyder 2011, pp. 216–219, 236–239). Examples dated to ca. 1490–1520 are almost identical (Schnyder 2011, pp. 374–378).

### Conclusions

The results of the archaeological research allowed us to establish a fine-grained chronology of the entire motte-and-bailey castle in Kadłub, evaluating its economic significance, and reconstructing how it was built and used. The first step in this construction entailed selecting a location in a natural wetland area and devising a general layout. Next, two ditches were made, while the excavated soil was used for forming two rings of ramparts and the central mound. The mound was raised on a platform lined with timber and brushwood or a thick layer of peat characteristic of the marchland areas. At the top of the motte, a rectangular residential building was erected, most likely involving a timber frame on cobbler stone foundations. Once the building had been completed, the exterior sides of the lowest storey were covered with sand, this having the double effect of raising the motte and transforming the ground floor into a cellar. The foundation was

constructed from erratic rocks gathered in the vicinity and bound with yellow clay. No signs of a sudden destruction of the building were noted. At some point in time, a rectangular outer bailey surrounded by a low rampart was added to the northern side. The analysis of written records and verification of previous findings suggests that the establishment of the site (which made part of allodium Garten) may be attributed to the house von Luchow. This likely happened no sooner than in the first half of the 14<sup>th</sup> century. Although members of this noble family are mentioned as owners of the estate from 1358 onward, we do not know if this date marks the onset of their permanent residence in Garten/Kadłub. Further development of the allodium and its expansion is connected with actions of many members of the von Rymbabe family known to us by name, who probably resided in the castle up to its abandonment in the early 16<sup>th</sup> century.

The material culture recorded on the site consists predominantly of standard products rather than high-end ones. The most interesting objects, that is, stove tiles, date back to the 15<sup>th</sup> century and depict allegoric scenes indirectly linked with the ethos of chivalry. Some were made using the same moulds as the tiles unearthed at Więzienna Street in Wrocław. The function of the motte-and-bailey castle was primarily administrative, since the stronghold served as a symbolic centre of power of minor nobility. It can be included among more modest and common castles of the discussed type in contemporary Lower Silesia. The economic background of the estate was partly reconstructed using the information from historical and cartographical records as well as ALS data. From the founding of the stronghold, an important role was played by fish ponds, meadows, and possibly a watermill. After the motte-and-bailey castle had been abandoned, the surrounding land continued to be used for agricultural purposes and the fish ponds were successively expanded. The governance over the village of Kadłub, where the landowners resided, was moved to the demesne in the village itself. Nevertheless, up to the end of the modern era (the 18<sup>th</sup> century), subsequent owners of the village were using their full title, *Lords of Ober and Nieder Kadlaw, Göbel and Garten*, emphasising the tradition and highlighting their attachment to the names of these historic locations.

### Acknowledgements

The authors wish to express their heartfelt gratitude to everybody who contributed to this paper. First of all, we would like to thank Prof. Mateusz Goliński and Prof. Jerzy Piekalski. We are grateful to Prof. Tomasz Jurek for his helpful suggestions and for providing copies of documents concerning the history of the estate. Our heartfelt gratitude also goes to Prof. Wojciech Mrozowicz for his assistance in deciphering and understanding the medieval sources used during our work on this study. Dominik Nowakowski, PhD, brought our attention to documents – and provided us with copies thereof – that proved to be of great value, which we also

greatly appreciate. Last but not least, we would like to thank all of the patient students from the Institute of Archaeology, University of Wrocław, whose painstaking efforts in the field contributed immensely to the final result.

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### Abbreviations

APWr. – Archiwum Państwowe we Wrocławiu (State Archives in Wrocław)

- Aberdeen Bestiary – Aberdeen Bestiary, University of Aberdeen MS24, <https://www.abdn.ac.uk/bestiary/ms24/> (access date: 18.08.2020) – Bodleian Library (MS. Douce 88).
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- APWr., UK – Rejencja Wrocławska, Urząd Katastralny w Środzie Śląskiej (Breslau Regierungsbezirk, Cadastral Office in Środa Śląska), file no. 4091.
- APWr., WSPŚ – Wydział Samorządowy Prowincji Śląskiej (Self Government Department of Silesian Province) – Kreis Neumarkt (Gloschkau, Kadlau), file no. 739.
- APWr., Zbiór rękopisów archiwalnych (Collection of archived manuscripts), file no. 11 (old: Rep. 16, 3A).
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