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## Water Supply in a Late Medieval **Motte Tower Castle. Remarks Concerning** the Discovery of a Well within the Mottetype Manor in Ciochowice in Upper Silesia

Zaopatrzenie w wodę na późnośredniowiecznym obiekcie typu motte. Uwagi na temat odkrycia studni na terenie dworu typu motte w Ciochowicach na Górnym Śląsku

Abstract: Within the late medieval motte manors in Europe, it is very rare to discover facilities and devices, including wells, related to the provision of water for the manor's domestic needs. Certainly, easy access to water was important both for satisfying the daily needs of the inhabitants and for the stable economic functioning of any knightly seat. This was probably also the role of the well discovered within the relics of the motte in Ciochowice. The aim of this paper is to discuss this rare and valuable find in the context of other discoveries of this type in Europe. It will also be important to present its construction details, chronological findings and individual artefacts related to its daily functioning.

Keywords: well, water supply, motte, knight's manor house, late medieval period, Upper Silesia

## Water in the life of people in the Middle Ages

The intuitive source of water for humans has always been both watercourses, i.e., rivers and streams, as well as ponds and lakes, followed by spring water and finally, the groundwater flowing under the ground surface. Water, widely regarded as a source of life has always been essential, firstly to provide for the natural necessities



of life, the functioning of households, agriculture, and livestock, and lastly for the needs of crafts, in practical terms, for every type of craft (Łubkowska 2016: 20–21). It was no different in the Middle Ages. The role of water and its accessibility even determined the location of rural (Fokt 2012: 215–216; Klápšte 2012: 189) or urban (Ostrowski 1996: 174–195; Piekalski et al. 2021: 79–80) settlement structures during this period. Another issue, undoubtedly an important one, was also the quality of the water, as for various reasons it did not always meet the appropriate standards of cleanliness (in terms of its modern standards). The purity of the water used on a daily basis was not always adequate. This caused frequent health problems of various kinds, such as contamination, etc. (Samsonowicz 1970: 106–107). A piece of infrastructure that was structurally easy to build and ensured relatively good water quality, were wells. In towns, they were built within private plots, within public squares, and along communication routes (Cembrzyński 2014: 18). Of course, as the cities grew and increased in population, urban centres invested in the development of water supply systems, allowing for the rapid delivery of large quantities of water (Cembrzyński 2014: 18; Buśko 1996: 100–105). In villages, there were communal facilities located within the village common grounds, but also wells dug within individual homesteads (Fokt 2012: 178–179).

While the subject of obtaining, distributing, and using water in medieval settlement communities, as mentioned above, has so far been the subject of at least several short or more comprehensive dissertations (including Buśko 1996: 178–193; Fokt 2012: 93–122; Cembrzyński 2014; Laberscheck 2016), these aspects in the context of rural knightly residences, both in Silesia and surrounding lands, have not been discussed in detail.

#### Manors and water

The issue of water appears relatively frequently in the context of Silesian *motte*-type manor houses / tower castles. This is because the vast majority of such complexes in the discussed region were located in close proximity to watercourses, as pointed out by D. Nowakowski in his comprehensive study of this type of buildings from this area (2017: 91–100). The watercourses and the wetlands formed in their valleys often constituted a natural terrain barrier protecting the manors (Nowakowski 2017: 105–113). On many occasions, river water was also fed directly into the moats surrounding the mounds of fortified settlements, usually by means of artificial ditches.

However, natural watercourses or lakes and ponds were primarily a direct source or reservoir of drinking water for the inhabitants of medieval *motte* residences. Unfortunately, it is virtually impossible to reconstruct issues of water extraction or distribution from archaeological sources. However, they can be deduced using,

for example, heuristic methods, according to which, when explaining phenomena or human behaviour, one should pursue first and foremost the simplest solutions (Heinzmann 1999: 244–246). According to this principle, it can therefore be assumed that the people who built their habitat by the river implicitly intended to draw water from it for their needs. This approach must also have guided the knights who erected their residences close to natural water sources. An alternative to drawing water from the river was certainly the construction of a well in the immediate vicinity of the building, which reduced the effort involved in carrying containers between the water intake and the place of use. As demonstrated by the discoveries from the UK, special cisterns were sometimes also built on the baileys of *motte-*-type structures, into which rainwater was channelled by gutters (Higham, Barker 1992: 335). Such containers certainly provided a convenient reservoir of water for the inhabitants of the knightly seats.

However, in Poland, wells as elements of infrastructure are not often discovered during the investigations of medieval manors. To a large extent, this may be caused by the fact that excavations and surveys were often limited to the castle mound itself and rarely went beyond its outline to include the area of the so-called 'suburbium' (Sikora, Kittel 2017: 561–563). Within them, one can deduce the presence of the economic or production facilities of the manors modelled on those discovered on motte-and-bailey sites in Western Europe (Higham, Barker 1992: 78–113). In Polish realities, due to the state of research, these are often only research assumptions (Marciniak-Kajzer 2011: 296). Another issue is the fact that not all *motte*-type structures had such facilities directly adjacent to them, and the role of a 'suburbium' or 'bailey' could also have been played by a village located close to the manor.

As already mentioned, only a few discoveries of wells with wooden casings are known from Central Europe that were associated with *motte*-type sites. Relics of wells were discovered on the inner area of a ring-shaped fortified settlement in Gniazdków in Mazovia (Lechowicz 1986:180; Marciniak-Kajzer 2011:341–342). They were connected with the 1st phase of development of the site at the end of the 13th and 1st half of the 14th century. Unfortunately, no information about the appearance of its structure has survived. In Silesia, the only known well was discovered at the end of the 19th century during the destruction of a mound of the late medieval fortified settlement at Sieniawka near Dzierżoniów in Lower Silesia (Nowakowski 2017: 127–128, 426).

The well of an unknown construction was also located in the immediate vicinity of the *motte* manor house, which operated in the 14<sup>th</sup>-early 16<sup>th</sup> century in the village of Hodkov in South Bohemia (Huml 1977: 95)<sup>1</sup>. The relics of the wooden

<sup>1</sup> It was identified here on the site plan as a 'zanesená studna', i.e., clogged well (author's translation).

casing of the well were also found during the research of the *motte*-type object in Schermbeck in the state of North Rhine-Westphalia, and it was associated with the object functioning as early as the 10<sup>th</sup>-11<sup>th</sup> century (Brüggler, Ocklemburg 2015: 174-175).

Relics of a wooden well casing were also found during the survey of a *motte*-type site in Schermbeck in North Rhine-Westphalia. It was associated with a site that functioned as early as the 10<sup>th</sup>-11<sup>th</sup> century (Brüggler, Ocklemburg 2015: 174–175). In this part of Germany, the best-known example is a wooden well discovered during excavations carried out on a *motte*-type site at Der Hoverberg near Birgelen (Herrnbrodt 1955/1956: 350–352). The knights' seat was most intensively used in the 11<sup>th</sup>-12<sup>th</sup> centuries, although it operated also at a later date, as evidenced by finds of ceramic material. The local well was located right next to a building accompanying the manor. Its full profile was obtained by opening an excavation trench followed by a borehole. The bottom of the well was at a level of 8 m. At a depth of about 3.5 m, archaeologists found remains of a casing in the form of a circle with a diameter of about 1.5 m, made of moulded semi-circular wooden elements. In the lower part, the diameter of the casing narrowed to a diameter of about 1.2 m and was probably made of vertically inserted, also moulded, interconnected planks.

A draw well was also discovered within a wooden *motte*-type complex in Launceston Castle in Cornwall (Higham, Barker 1992: 274–276). It was located at the foot of the communication ramp, between the castle mound and the bailey, and associated with the use of the site around the mid-13<sup>th</sup> century.

Wells, but with casings made of stone, are also known from Western European – already stone-built – *motte* castles. An example of such a feature comes from Singelberg, Belgium, located in north-eastern Flanders (de Meulemeester, Matthys 2001: 44–45)². The well discovered at that site is associated with the fourth phase of the expansion of the residence in the late 12<sup>th</sup> century.

Already in the modern period, water may have been supplied to nobles' residences (in addition to the use of wells) using pipe systems, as recently demonstrated by the research on the 17<sup>th</sup>-century manor house in Švamberk in South Bohemia (Ciglbauer et al. 2023: 232–235). So far, there is no confirmed use of these systems in the context of medieval *motte*-type manors. However, the use of wooden pipes as early as the 14<sup>th</sup> century has been confirmed in the case of medieval towns in Silesia, including Wrocław (Buśko 1996: 101). Wooden waterworks were also built in medieval Kraków (Ligeza 1971: 28–30). Water supply

<sup>2</sup> Detailed conservation records https://inventaris.onroerenderfgoed.be/erfgoedobjecten/302085 (access: 12 VI 2024).

facilities were also present in numerous medieval Czech towns, e.g., in the mid-14<sup>th</sup> c. Prague, at the same time perhaps in Brno, in the 1<sup>st</sup> half of the 15<sup>th</sup> c. in Hradec Kralove, and at the end of the 15<sup>th</sup> century in Tabor (Sowina 2009: 256–257; Cembrzyński 2014: 41).

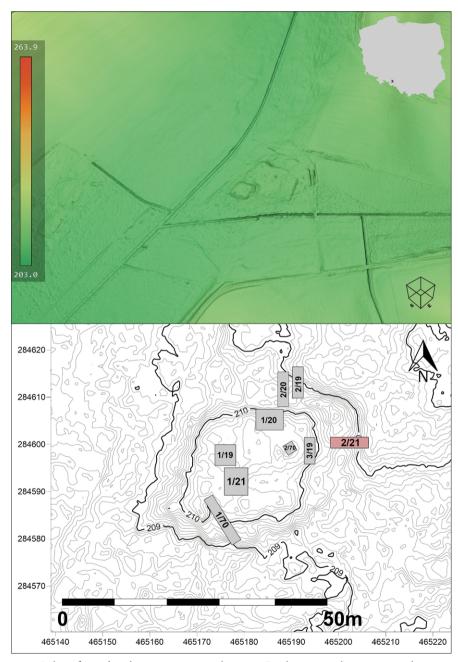
These are just a few examples confirming that waterworks were already used in Central Europe in the 14<sup>th</sup> and 15<sup>th</sup> centuries.

# The well from the manor in Ciochowice

The relics of the fortified settlement in Ciochowice were already of interest to German scholars in the 1930s, but the first archaeological investigation did not take place until after the Second World War (Bagniewski, Tomczak 1972: 203–205) (Fig. 1). This study was limited in scope, but finds of pottery material confirmed the medieval origin of the site. However, the presumed layout of the buildings and the various phases of use of the site could be reconstructed and distinguished based on the excavations carried out at the discussed site in the years 2019–2021 (Zdaniewicz 2021: 386–387). The youngest phase is associated with the existence in the central part of the plateau of the mound of the relics of a tower building with a basement built on the plan of a quadrangle measuring approximately 5.2 x 5.2 m. Based on the 14C dates and the discovered archaeological material it can be dated to the horizon of the 2nd half of the 14<sup>th</sup>–15<sup>th</sup> century. The relics of a well discovered in the vicinity of the manor house are also associated with this phase of use.

The said well was discovered in trench 2/2021 on the outer side of the moat surrounding the castle mound to the east (Figs. 1-2). At the location of the well, the eastern edge of the moat had a gentle course and was not reinforced. In the past, the moat was certainly wet and had a maximum width of approximately 7-8 m.

The casing of the discovered well was quadrangular in shape, and its frame had the form of a log structure made of pine half rounds with daps at the ends, creating the so-called long corner 'dovetail joints' (Fig. 2). Their ends were joined together by stacking them on top of each other, at right angles. The length of the structural elements used was approx. 1.3–1.4 m and the width up to approximately 0.30–0.35 m (Fig. 3). In the upper part, the casing was probably crowned with oak planks, also similarly notched at both ends. One of such planks was discovered in the immediate vicinity of the well. This type of log joint was one of the most important joinery techniques used in timber architecture in Poland (Jasieńko et al. 2014: 62–63). It was used both in the construction of churches and nobles' manors, but also in huts and other farmstead buildings (Sas-Zubrzycki 1916: 35).



**Fig. 1.** Relics of a medieval *motte*-type manor house in Ciochowice on the LIDAR visualisation and a contour plan of the site with the location of archaeological excavations from 1970, 2019–2021, prepared by R. Zdaniewicz.

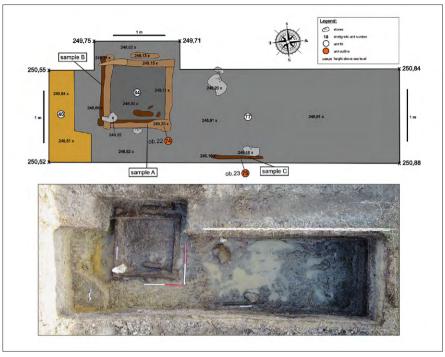


Fig. 2. Drawing and photograph of the well in the trench 1/2021, photo and processing by R. Zdaniewicz.

The high level of groundwater made the exploration of the well very difficult. It was possible to excavate from the layer of silt and record the first two levels of planks from the crown of the wooden casing, of the six preserved *in situ* (Fig. 4)<sup>3</sup>. Three structural elements were analysed in detail, two of which were sampled for dating (Fig. 3). A calibrated date of 14C was obtained from the sample taken from the pine half-round log: 525±35 (sample A), and the sample taken from the oak plank for dendrochronological studies yielded a date of felling of the tree in 1425 (sample C)<sup>4</sup>. The bottom of the well was reached at a depth of approximately 1.2 m from the level of the top timber element. It was sandy with a few pebble stones. However, it is difficult to establish whether these formed any structural element, e.g., to stabilise the wooden structure in the bottom parts.

**<sup>3</sup>** Only the planks from their highest layer of the crowning were sampled for analysis, which was also a recommendation of the Provincial Heritage Protection Officer.

<sup>4</sup> The analysis was conducted by Professor M. Krapiec from the Absolute Dating Laboratory in Kraków.

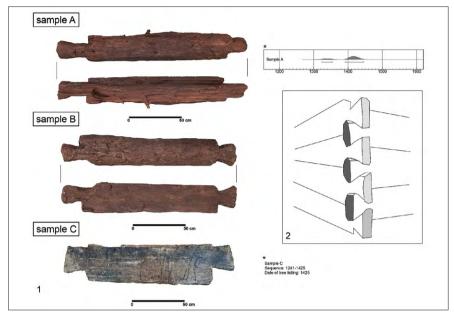


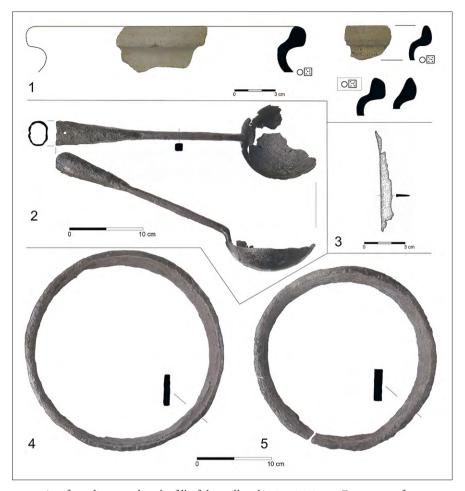
Fig. 3. Structure of the wooden well casing. 1. Pine half-round logs and the oak plank subjected to detailed examination; 2. Reconstruction of the well's structure.



**Fig. 4.** The manner of joining structural elements in the upper part of the well casing, photo by R. Zdaniewicz.



**Fig. 5.** Daps on elements of a well discovered in 2003 on Náměstí Svobody in Brno, reconstructed in the museum at Špilberk Castle in Brno, photo by R. Zdaniewicz.



**Fig. 6.** Artefacts discovered in the fill of the well and in its vicinity: 1. Fragments of pottery vessels; 2. Iron ladle; 3. Remains of a small iron knife; 4–5. Hoops of a stave bucket.

A sparse historical material was discovered during the excavation of the fill of the well in Ciochowice. These are mainly fragments of medieval vessels, but the degree of their fragmentation prevented the reconstruction of complete forms (Fig. 6.1). The forms of the edge parts indicate that they were fragments of common and universal cooking pots or pitchers and have analogies in late medieval pottery material from studies of other *motte*-type sites in Upper Silesia (Goiński 2016: 96–97; Zdaniewicz, Abłamowicz 2024: 52–53).

Individual metal artefacts were also discovered, mostly heavily corroded, including an iron knife (Fig. 6.3). The most valuable discovery is undoubtedly an iron ladle, with a bowl-shaped, semicircular end (Fig. 6.2). Its handle is topped with

a massive sleeve for mounting on a wooden shaft. It may have been a piece of well equipment and was used to scoop water directly into vessels. A ladle with a similarly shaped bowl was discovered, among others, during the investigations at Sezimovo Usti (Krajíc 2003: 125).

#### Discussion

Unfortunately, it is difficult to find direct analogies, dating from a similar time horizon, for the structure of the discussed well. Late-medieval wells made of planks with corner joints are known from studies in Silesia, e.g., in Wrocław from Nowy Targ or Plac Dominikański (Cembrzyński 2014: 27–28). Examples of other features of this type, built with horizontally laid planks with cut-outs at the ends to allow their joining, are also known from the excavations of Plac Kościuszki in Bytom (Pawliński 2012: 60–65). An interesting example of a well, with a casing construction somewhat similar to that of the Ciochowice well, is the feature discovered at Náměstí Svobody in Brno (*Brno* 2006: 173–174). It was built in the log-house technique with oak half-round logs, approximately 2–2.3 m long, with long corners at the end of the 13<sup>th</sup> century and was used as a public well after the 16<sup>th</sup> century and perhaps even after the 18<sup>th</sup> century. A reconstruction of this well is now in the Špilberk Castle Museum in Brno.

Elements of a pail or a bucket discovered in the moat are probably also related to the functioning of the well. Of the original stave bucket, only two hoops have survived, of different diameters, made of iron bands about 4.5 cm wide. The larger one has an internal diameter of approximately 26.5–28 cm (Fig. 6.4) and the smaller one of 21–25 cm (Fig. 6.5). Originally, they were probably structural elements of a pail. The diameters of the hoops indicate that the dimensions of the vessel were not large. It is now difficult to determine whether it served only as a container for distributing water or perhaps strictly for drawing it directly from the well. A bucket with hoops of a similar size was discovered in a well in York in the UK, which perhaps provides an interpretative clue here (Ottoway, Rogers 2002: 2806–2808).

The discovery of the relics of the well at Ciochowice should certainly be considered extremely valuable in the context of research into the layout and functioning of *motte*-type structures in Central Europe in the 14<sup>th</sup>–15<sup>th</sup> centuries. As indicated in this paper, finds of this type of infrastructure are extremely rare, and so far, have been known mainly from studies of chronologically older sites of this type from Germany or England.

<sup>5</sup> Information about the discovery after: https://www.archaiabrno.org/home/?acc=studna (access: 12 XII 2024).

### Summary

The well located within the late medieval manor complex in Ciochowice certainly played an extremely important role in the functioning of the site. Easy access to the water source was important both for the daily needs of the inhabitants but also for the stable economic functioning of the knight's residence. During archaeological investigations carried out in the surroundings of the knight's tower castle, elements of equestrian equipment, a horse tack, and horseshoes were found, which testifies to horse breeding. The analysis of the bone materials discovered during the excavations of the Ciochowice site made it possible to identify numerous remains of other livestock, including cattle, pig, goat/sheep but also cat, dog and fowl, such as hens and geese (Abłamowicz 2023: 167–170). Traces found on their surfaces indicate that they are largely post-consumer bones but it cannot be ruled out that these animals were also bred on site.

'Water is the principle, or the element, of things. All things are water' according to one of the translations of the sentence said by the Greek philosopher Thales of Miletus. Leaving aside the deeper philosophical considerations of the multifaceted meaning of this maxim, in a general sense it also expresses the essence of the importance of water for the daily existence of the hosts of the knight's seat in Ciochowice (Legutko 2017: 81–89). Without it, it could not function.

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#### Streszczenie

W trakcie badań późnośredniowiecznych obiektów typu *motte* na terenie Europy niezwykle rzadko odkrywane są urządzenia, których zadaniem było dostarczanie wody na potrzeby użytkowe ich mieszkańców. Niewątpliwie łatwy dostęp do ujęcia lub źródła wody był istotny zarówno dla zaspokojenia codziennych potrzeb mieszkańców, jak i dla stabilnego funkcjonowania gospodarczego każdej siedziby rycerskiej. W otoczeniu średniowiecznego dworu rycerskiego w Ciochowicach na Górnym Śląsku, w trakcie badań archeologicznych przeprowadzonych w 2021 r., natrafiono na relikty studni. Celem niniejszego artykułu było omówienie tego rzadkiego i cennego znaleziska w kontekście innych odkryć tego typu w Europie. W trakcie badań ustalono, że szkielet cembrowiny

studni ciochowickiej stanowiły półokrąglaki sosnowe, na końcach zaciosane na obłap, z ostatkami, na tzw. jaskółczy ogon. Próby drewna pobrane z elementów drewnianych poddano badaniom chronologicznym metodą 14C i dendrochronologii. Wykazały one, że obiekt pochodzi z xv w. We wnętrzu i bezpośredniej bliskości studni odkryto szereg przedmiotów związanych z jej codziennym użytkowaniem, m.in. żelazną nabierkę, relikty obręczy wiadra czy ułamki naczyń ceramicznych.

**Słowa kluczowe**: studnia, dostarczanie wody, *motte*, dwór rycerski, późne średniowiecze, Górny Śląsk

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