The Castle in Sztum in the Light of archaeological research in 2019 **Bogusz Wasik**

Abstract: The article presents the results of research of the Teutonic castle in Sztum that was carried out in 2019. This was the first large-scale study of this stronghold. It yielded much information, verified past views and supplemented existing knowledge significantly. The presence of a wooden-earthen stronghold in the place of a brick stone castle was not confirmed, and a new chronology of the beginning of its construction was indicated at the end of the 14th century. Elements of the castle's buildings were discovered and identified, such as the residential building of the Grand Master and the second castle gate. The state of knowledge about the castle construction technique has also been significantly expanded.

Key words: castle in Sztum - Sztum - Teutonic castles - Teutonic Order

Sztum (germ. Stuhm) is located in northern Poland, 15 km south of Malbork, in historic Prussia. In the state of the Teutonic Order, it was a part of the Malbork commandry, and when these lands later came under the rule of the Polish Crown in 1466, Sztum found itself in the Malbork voivodeship. As a result of the first partition of Poland in 1772, it came under the rule of the Prussian state. At that time, some of the buildings and castle towers were demolished.

Scientific interest in the castle began after the mid-19th century. During this period, several papers of German researchers were published and were considered generally valid until the beginning of the 21th century (Bergau 1869, 405-414; Töppen 1881, 85-104; Schmid 1909, 345-353). In the second half of the 20th century, Hanna Domańska maintained many of their conclusions in an unpublished historical and architectural study of the castle, adding several new interpretations regarding its spatial arrangement and chronological transformations (Domańska 1971). These theses were for the most part repeated by subsequent authors (Haftka 2010; Pawłowski 2007). However, they ignored the results of detailed architectural research from 1980-1981 (including Mincer - Labeuz - Specht - Żabiński 1981; Rekowska 1980), which undermined some of Domańska's conclusions. In the second half of the 20th century, surface archaeological research and excavations were carried out at the castle. The documentation from that study was either lost or did not bring any new conclusions to the knowledge of the castle (Sawicki 2004; Bogdanowicz - Dzikowski - Hochleitner - Jesionowski - Mańkus - Panfil - Polejowski 2017). An attempt at a new look at the castle in Sztum was then made by Tomasz Torbus (2007, 171-184), an art historian, but only a new analysis of written sources carried out by historians (Jóźwiak – Trupinda 2017, 29–51) yielded significant

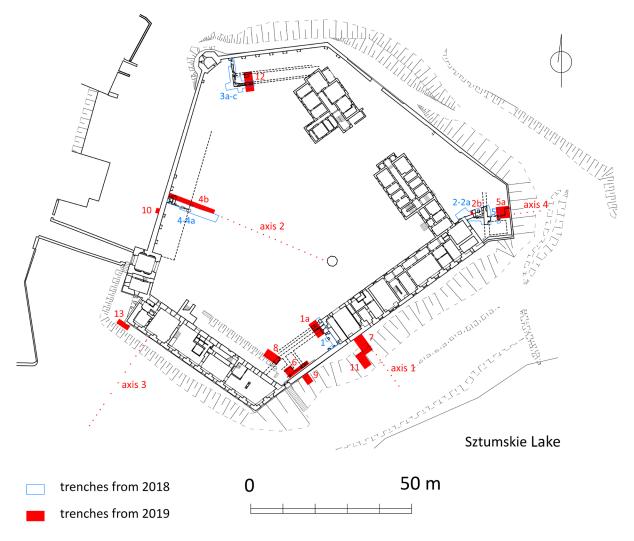


Fig. 1. Castle plan with archaeological trenches and discovered building relics (by B. Wasik).

new knowledge concerning the building. After conducting the discussed research from 2019, a work was published that was the first comprehensive scientific study of the Teutonic castles of lower-ranking officials (Knyżewski 2020). In the case of the castle in Sztum, however, it did not bring new knowledge, and, like the previous ones, it did not take into account the results of architectural research from 1980–1981 or the research of Sławomir Jóźwiak and Janusz Trupinda. As for the field research in 2014, a GPR radar survey of the castle was carried out, but it was not verified by archaeological research (Nawrocki – Antosiewicz – Pieczonka 2014a; 2014b). In 2018, on the initiative of the Malbork Castle Museum, initial archaeological excavations were established in the castle. Currently, in 2019, archaeological and architectural studies carried out on a larger scale are aimed at the first comprehensive reconnaissance of the castle. During the research season, 12 trenches were dug (128 m² in total), 5 of which were related to the existing trenches from 2018. In addition, 4 axes of geological drills were made to supplement the knowledge from the trenches (Fig. 1).

The basic research questions requiring verification relate to establishing whether the castle stands in the place of an older wooden-earthen stronghold, the chronology of the castle's construction and its spatial arrangement. Information about the oldest presence of the Teutonic

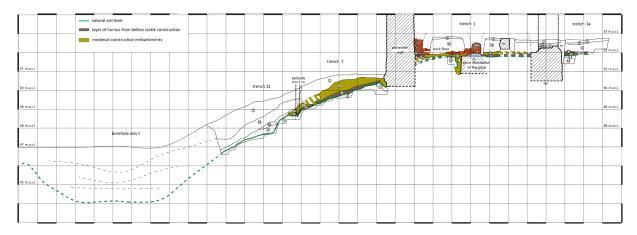


Fig. 2. Cross-section through the moat, south-eastern slope and the gemach (trenches 1, 1a, 7, 11, drilling axis 1), with an indication of the original and natural soil level and embankments from the time the castle was built (by B. Wasik).

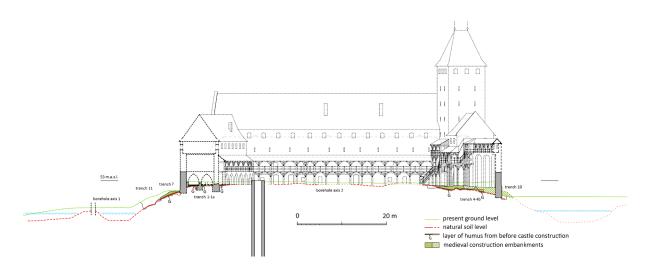


Fig. 3. East-west section (southwest view) through the castle area, indicating the level of natural soil, embankments from the time of the castle construction, and reconstruction of the building from the first quarter of the 15th century (by B. Wasik).

Knights in the Sztum region comes from the 14th century chronicle of Petrus von Dusburg. In 1236, he mentions, among others, the presence of Prussian fortifications in Sztum (Wyszomirski – Wenta 2010, 53). This mention became the basis for presumptions about the presence of a Prussian stronghold in the place assumed to have been rebuilt by the Teutonic Knights (e.g. Domańska 1971, 10; Haftka 2010, 148; Töppen 1881, 85–86). However, the sources provide no further information about any wooden-earthen stronghold. Historians have recently associated the information about the "Stoma" grange from 1295 to Sztumska Wieś rather than to the castle itself (Jóźwiak, Trupinda 2017, 30). This issue was finally resolved by archaeological research in 2019, because a well preserved layer of the original soil was discovered in most archaeological trenches located in different parts of the castle area (Fig 2–3). However, there are neither remains of a wooden-earthen stronghold nor an intensive early medieval settlement on the site of the castle. This fact is unchanged by the discovery of small amounts of early medieval pottery, in large part in the secondary deposit. This proves the presence of



Fig. 4. South wall of the west gate: A – niches, B – demolished wall of the gate passage, C – place of support for the beam lifting the drawbridge, D – holes of beams bolting the gate (photo B. Wasik).

dispersed settlement in the Sztum region, which is not surprising (Błędowski 2019; Wasik 2019b, 113).

The officials of the Teutonic Knights associated with Sztum are referred to in sources dating from the early 1330s. Initially, the form of the office was not stabilized (vogt and pfleger), but from the 1340s onwards, only the vogt was mentioned (Jóźwiak - Trupinda 2017, 30-31). However, there are numerous references from the end of the 14th and beginning of the 15th century to the Teutonic Grand Masters' frequent stays in Sztum, as their residence building (gemach) was located there (Töppen 1881, 86; Jóźwiak, Trupinda 2017, 35). The remark in the sources of officials associated with Sztum became the basis for the most commonly accepted interpretation that the brick castle began to be built in the 1320-30s (Töppen 1881, 85-86; Schmid 1909, 345; Domańska 1971, 8; Pawłowski 2007, 8; Torbus 2007, 179). In the context of these considerations, another source reference is important. In the chronicle of Lawrence Blumenau (mid-15th century), there is information that Albrecht III, Duke of Austria, who was particularly pleased with the hospitable reception by the Teutonic Knights, founded a fortalicium in Sztum. It is agreed that this information applies to 1377. Since the time of Max Töppen until recently, this information was associated with the addition of one of the castle towers – mostly believed to be the eastern one (Töppen 1881, 86; Schmid 1909, 351; Domańska 1971, 22-23; Pawłowski 2007, 12; Torbus 2007, 179-180). However, Sławomir Jóźwiak and Janusz Trupinda have pointed out that this is an incorrect interpretation of the source and the term used in it, arguing that this mention must refer to the construction of the entire castle (Jóźwiak – Trupinda 2017, 33–34). New and decisive sources in determining the chronology of castle construction have been provided by current research. Recognition



Fig. 5. Trench 5a – remains of the eastern tower and the gate: A – tower wall, B – castle perimeter wall, C – gate opening, D – niche jamb, E – floor of the gate building (photo B. Wasik, drawing S. Urbaniak, digit. B. Wasik).

of the eastern tower wall and the castle perimeter wall showed that both are linked and built at the same time (Fig. 5; Wasik 2019a, 69-70). Moreover, architectural studies from 1980-81 showed that the western and northern towers (the latter of which served as a prison) are also linked to the castle's perimeter wall (Mincer – Labeuz – Specht – Żabiński 1981, 42; Rekowska 1980, 100), which is also confirmed by current observations. Therefore, suggestions about the secondary nature of one of the towers should be rejected, and it can be stated that all three were built together with the defensive wall as part of a uniform concept of the castle's appearance. This is also confirmed by the analysis of the brick size. Building material of a similar size was used to erect defensive walls, towers and gates, which differs from the material used in other buildings erected in the later stages of the castle's construction (Wasik 2019a, 111). As for the chronology of the castle construction, pottery shards found in the construction embankment that connects with the filling of the foundation ditch of the southeast wall have features indicating the second half of the 14th century. In addition, late-medieval ceramics, occurring in the castle layers in general, have features typical of the chronological interval from the mid-14th to mid-15th century (Błędowski 2019; Wasik 2019b, 117). Also, the architectural elements of the castle reveal features that point to a later chronology of the construction than was previously and most commonly accepted. The castle gates have an unusual form they consist of a gate building connected to a square tower (Fig. 6-7). Such gates flanked by a tower occur in the areas along the Oder and Elbe rivers. Meanwhile, the most typical form in Prussia, as well as in the Polish Crown, was a four-sided tower with a gate in the ground floor (Widawski 1973, 56-60). A close analogy, with characteristic niches in the side walls of the gateway, are the city gates of Nowe Miasto (Germ. Neumark), especially the Lubawska Gate. There are no written sources specifying their chronology, but already in the 19th century Johannes Heise pointed to the stylistic and workshop similarities to the gable of the Lubawska Gate tower and the main nave of the parish church of St. Thomas (Heise 1895, 671-673). The expansion of this church can be dated to the third quarter of the 14th century (Herrmann 2007, 621). Another characteristic element is the prison tower - strongly extended with

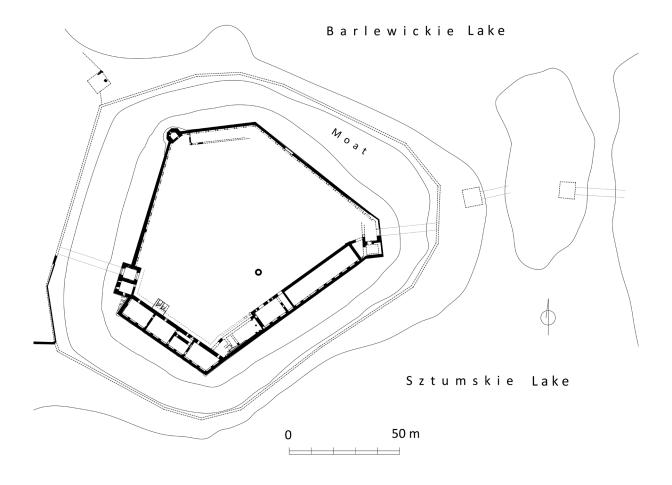


Fig. 6. Reconstruction of the castle plan in the first half of the 15th century (by B. Wasik).

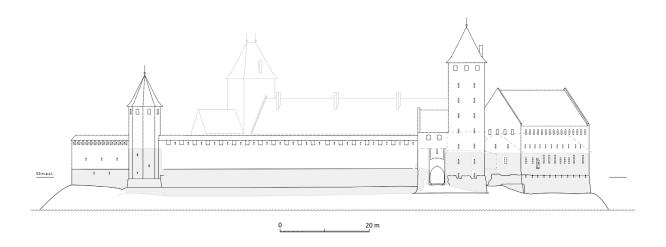


Fig. 7. Reconstruction of the medieval cubature of the castle, indicating the preserved walls (grey) and the originally higher ground level of the western moat slope – view from the west (by B. Wasik).



Fig. 8. Fragment of the south-western wing façade (A) with original entrance openings (1) and the offset on the gallery (2). The façade of the castle in Bytów (B) and the ground floor of the Grand Master's Palace in Malbork (C) (photo B. Wasik).

radially arranged embrasures. Tomasz Torbus pointed to its progressive form and analogy to the towers in the walls of the Malbork castle outer bailey, which indicates chronology after the mid-14th century (Torbus 2007, 179-180). Furthermore, the castle is generally characterized by stylistic simplicity, i.e. the lack of profiled architectural details, the use of only bricks with a straight cut corner and simple vaulting of the door and window openings, commonly only featuring segmental arches (Fig. 8). Such geometric architecture is also characteristic of other buildings erected at the end of the 14th century, such as the palace of the Grand Masters in Malbork or the castle in Bytów (cf. Herrmann 2019, 307–321, 379). It is true that the former, despite its geometricity, has a richer architecture, which is not surprising considering the function of the palace. However, on its ground floor, there is a characteristic proclivity for simple door openings, vaulted with a flat arch, with straight cut corners. Similar simple forms of window and door openings dominate in Bytów. Perhaps, therefore, one can point here to the impact of the style of construction workshops operating in Malbork² at the time. This chronology of the construction of the castle in Sztum is also confirmed by the results of 14C radiocarbon dating.3 Therefore, everything indicates that the source information, which refers to 1377, can indeed be linked to the construction of the castle. A question, however, remains: Where was the vogt's seat in the 1330-70s? A document issued on November 9, 1336 by the Grand Master Dietrich von Altenburg should be quoted here (regarding the granting of a village in the Brandenburg commandry). Importantly, it was issued "in Stummis curia nostra".4 It shows that there was a mansion in the area of Sztum at the time, but in the light of current research its location cannot be identified with the castle. Perhaps this building was located where the city was located in 1416 or in Sztumska Wieś.5

The castle and the town of Sztum were built on an island between two lakes (Fig. 9). Current research has shown, contrary to previous views (Domańska 1971, 6; Haftka 2010, 146; Pawłowski 2007, 8–9), that it was one island, and the castle and city were separated by a manmade moat (Kittel 2019, 5–7).

The castle was built on an irregular, polygonal plan, which for the end of the 14th century should be considered unusual, even anachronistic (Fig. 6). For a hundred years, the castles

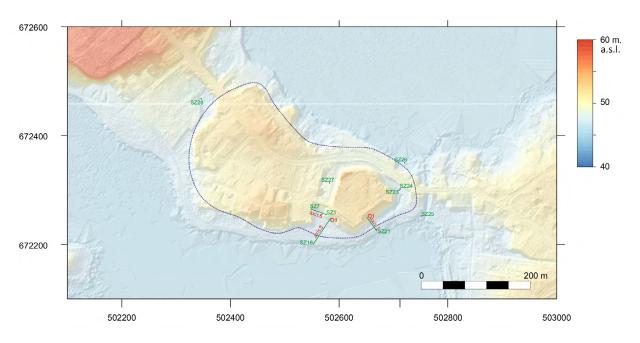


Fig. 9. Reconstruction of the approximate range of the island on which the castle and the town of Sztum were built (by P. Kittel).

in Prussia were built on a regular, four-sided plan (see Torbus 1998, 2007, 181; 2014; Herrmann 2007, 80-81). Both the commander's and lower-ranking officials' castles were built this way (e.g. Działdowo, Nidzica, Bytów; Kajzer – Kołodziejski – Salm 2001, 120–122, 166–167, 316-319). Since current research has proved that the castle in Sztum was not built on the site of a wooden-earthen stronghold, the old argument that the irregular plan is the effect of continuation of an old Prussian gord shape has not been confirmed. Perhaps, therefore, the reasons should be seen in the desire to use most of the space of the oval hill. This can be explained by both the function of the castle housing the seat of the Grand Masters, and, above all, the necessity of housing the utility buildings within the perimeter walls. This resulted from the fact that the castle in Sztum did not have an outer bailey. Initially, the city area was to be intended for the outer bailey, but after its final location in 1416, the castle no longer had such outer space (Jóźwiak - Trupinda 2017, 46). Archaeological research has shown that from the beginning of the construction of the castle, an effort was made to make the most of the space of the hill. The foundations of the perimeter wall erected in the first stage were made in the slope line (Fig. 2). Then the slopes remaining within the castle were levelled with embankments (Fig. 3). Their thickness reached about 0.5-0.6 m in the south side, 1.5 m in the west side, reaching a maximum of more than 2 m from the east. A terrace was also shaped on the outside of the perimeter wall (except for the south-western section). As indicated by its characteristics, clay obtained during the digging of the moat was used to make embankments (Wasik 2019a, 96-99).

The foundations of the castle's defensive wall were very shallowly constructed – from the outside of the castle about 0.3–0.4 m below the medieval ground level (Fig. 2). From the inside of the castle, due to the foundation of the walls along the slope, the foundations were more recessed – even up to 1.6–1.7 m. In the courtyard, the walls had arcades, with a passageway and battlement on top (Fig. 10). Based on the preserved fragments of arcades, the height of the perimeter wall (including battlements) can be calculated to have been at least

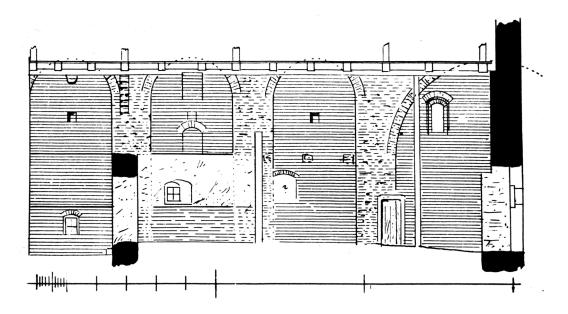


Fig. 10. Arcades of the perimeter wall preserved in the southern part of the south-eastern utility wing (by Schmid 1909).

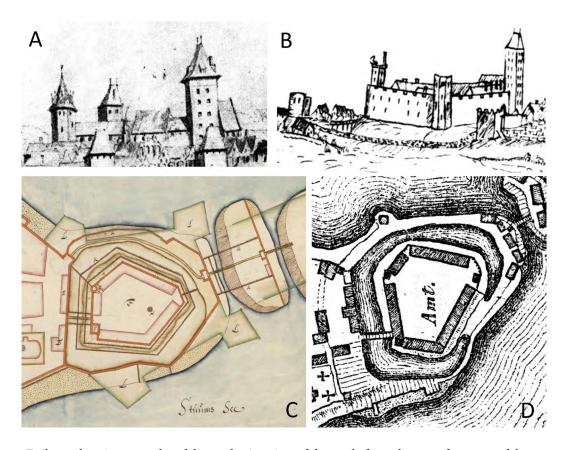


Fig. 11. Early modern iconography of the castle: A – view of the castle from the west; fragment of the panorama of the city and the castle by A. Booth from 1628, B – view of the castle from the north; fragment of the panorama from 1749, C – plan of the castle from 1658; D – plan of the castle by A. Wolf from 1772 (A, B, D by Mincer – Labeuz – Specht –Żabiński – Kołecki 1981; C by Kungl. Krigsarkivet in Stockholm, SE / KrA / 0425/06/011, https://sok.riksarkivet.se/bildvisning/K0024698_00001, accessed 07.10.19).

9.8 m above the medieval level of the courtyard (nearly 9 m above the current one; Wasik 2019a, 88, 90). Three towers were in the line of the perimeter wall (Fig. 6). As indicated earlier, they were all built along with the defensive wall. Their walls are linked, and as the analysis of the brick sizes showed, similar building material was used to erect the brick parts of the towers and the defensive wall, other than in buildings from the later stages of the castle construction (bricks approx. $90-100 \times 140-150 \times 300-320$ mm; Wasik 2019a, 111). The east and west towers were quadrilateral, and the north prison-tower polygonal. None of the towers retained its original height – they were demolished and lowered at the end of the 18th and the beginning of the 19th century. However, their sizes can be determined on the basis of early modern descriptions and iconography⁷ (Fig. 11). On this basis, it can be concluded that the western tower was the highest, with eight storeys according to the description (Lustracja 1615–1624, 280). Thus, its height can be estimated at about or slightly over 30 m (Fig. 3, 7). According to iconography, the eastern tower was slightly lower, but there is no more accurate information about its height. The prison-tower was the lowest (Fig. 7.) Researchers suggested that it had four (Bergau 1869, 409) or five storeys (Töppen 1881, 98). However, these calculations are based on weak premises⁸ and should be treated with caution and approximation. It should be noted that only the last of the mentioned towers had clear defensive value. In the lower part, it had a dungeon, and on the upper floors the embrasures were arranged so as to enable the effective defence of the castle's foreground. The tower was also located in a place allowing control of the causeway to the north side of the castle, as well as the entrance to the city. The other two towers, however, had, as can be seen in their ground floors, walls only about 1.7-1.8 m thick, with a fairly large interior. Considering the height of about 30 m, it should be stated that the walls on the highest floors clearly had to be thinner. In the 16th-17th centuries, both quadrilateral towers held housing premises - the western starost's rooms (Lustracja 1565, 168-169; Lustracja 1615-1624, 280, 282). In the Middle Ages, they also most probably had residential interiors. This evokes analogies of the Klesza Tower in the Malbork castle, which housed the apartments of priests (Jóźwiak – Trupinda 2011, 514–115).

Both quadrilateral towers were connected with lower gate buildings (Figs. 6-7). The west gate (leading from the city) is still partially preserved today. It was preceded by a wooden bridge, at the foot of which (in the line of the outer wall of the moat) there was a small gate. At the gate proper, there was a drawbridge lifted by chains (Lustracja 1565, 166; Lustracja 1615–1624, 278). As the trace of the dismantled arch of the gate (on the preserved southern wall) is retracted in relation to the building face, it can be assumed that the gate opening was in a higher niche (Fig. 4). Nearly 5 m above the ground, there is a horizontal stone on which the beam lifting the drawbridge probably rested. Above it, there is no trace of a wall, which indicates that the beam, when raised, probably fit into a vertical narrow opening in the wall (cf. Domańska 1971, 19). The existence of a second gate with a drawbridge from the east was indicated by early modern descriptions and iconography (Lustracja 1615–1624, 282). Surprising, however, was the discovery at the eastern tower of a second large gate, which was analogous to the preserved western one (trench 5a; Fig. 5). It must be mentioned that both gate-buildings were built along with the neighbouring towers in the first stages of the castle's construction. The dimension of the gate-building on the north-south axis is not yet known, but its width on the east-west line is the same as that of the neighbouring tower (Fig. 6). Within the building, there are also remains of niches in the side wall, analogous to those existing in the west gate. These features indicate that it was not a small gate (wicket), but a full-scale gate-building. The presence of two large gates is unusual for a castle with a basic, single-part spatial arrangement, as it weakened its defences.

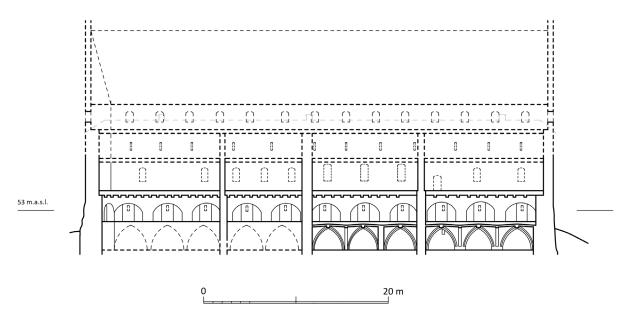


Fig. 12. Reconstruction of the cross-section of the south-western wing (by B. Wasik).

The largest medieval residential building of the castle (about $11 \times 48.8-52.5$ m) was the south-western wing (Figures 3, 6, 12). Researchers agree that it housed the vogt (Domańska 1971, 24; Pawłowski 2007, 11; Schmid 1909, 350; among others). This building, together with the neighbouring west tower, was referred to in medieval sources as das rechte hus the right castle (Jóźwiak - Trupinda 2017, 36-38). As current research has shown, in the castle's first building stage when the foundations of defensive walls, towers and gates were laid, the foundation for the south-western section of the perimeter walls was not made. Perhaps this was not done because construction of the building had already been planned at that time and there was a need to dig wide-spread foundation ditches for its basements. It is certain that the south-western wall was built from the foundation in the second stage of castle construction (initially at least to the level of the window sills of the first floor) parallel to the construction of the upper parts of the defensive walls and towers with gate buildings. Thus, the outer perimeter of the castle wall was closed. Also at that time, the layout of the west wall of the building's gable was changed, giving its plan regularity. At the stage of laying the foundation, it was planned to set it at an angle - exactly on the line of the western section of the perimeter walls. At this stage, the cellars were also built, which is indicated by an analysis of the dimensions of the bricks, which were analogous to those used in the perimeter wall of the castle and in the towers. At present, the cellars are located only under the western half of the building (Fig. 13). However, in the light of early modern descriptions, it can be stated that the south-western wing had a full basement. Further interiors are listed, accessible from the courtyard through another now non-existent staircase (Lustracja 1565, 167; Lustracja 1615–1624, 279). The wall of the ground floor and upper storeys closing the building from the courtyard was added to the existing perimeter walls of the castle in the next construction stage. There, smaller bricks were used $(80-90 \times 140-145 \times 310-320 \text{ mm}; \text{Wasik 2019a}, 111;$ 2019b, 114-116, 118). According to early modern descriptions, in the south-eastern part of the currently non-existent second floor of the wing, at least one room was accessible by stairs (Lustracja 1565, 168; Lustracja 1615–1624, 280). However, it is unlikely that housing interiors in the Middle Ages would also be on the second floor of the building, as this was not in line



Fig. 13. Cellar of the south-western wing (photo B. Wasik).

with the custom. However, this indicates the presence of a storey, which probably served as a warehouse in the Middle Ages. It is known from other castles that, in early modern times, housing space (e.g. in Grudziądz; Wasik 2012, 67) was sometimes placed in the warehouse stores above the main (first) floor. Such a room would not be located at the level of the defensive battlement and attic, which had to be above. As for the functions of individual rooms in the Middle Ages, knowledge from written sources is limited. On the first floor, there must have been the rooms of the *vogt*, including a refectory and his chapel (Jóźwiak – Trupinda 2017, 48–49). Based on the observations above, the *vogt's* wing can be reconstructed as a building with a full basement, with a utility ground floor, a residential-representative first floor, a storage second floor and the highest defensive floor with a storage attic. Early modern views from 1628, 1749 and ca. 1750 show that the building had triangular gables (Fig. 11). Horizontal communication of the rooms on the first floor was provided by a wooden gallery facing the courtyard (Lustracja 1565, 168; Lustracja 1615–1624, 279). A relic of it is an offset in the wall (Fig. 8).

The construction time of the described south-western wing should be dated to the end of the 14th century. Construction of farm utility buildings must have been started in the last years of this century. In 1400, a stable was mentioned for the first time, and then, in 1412, also the Grand Masters' stable. Teutonic inventories also mention a coach house - *carwan* (Jóźwiak – Trupinda 2017, 39, 50). These buildings were probably placed in the northern and north-western space of the castle opposite to the *vogt's* wing. Buildings of these functions also stood there in early modern times (Lustracja 1565, 167; Lustracja 1615–1624, 283; Lustracja 1765, 34; Fig. 6, 11). This area requires further archaeological research; however, it can be

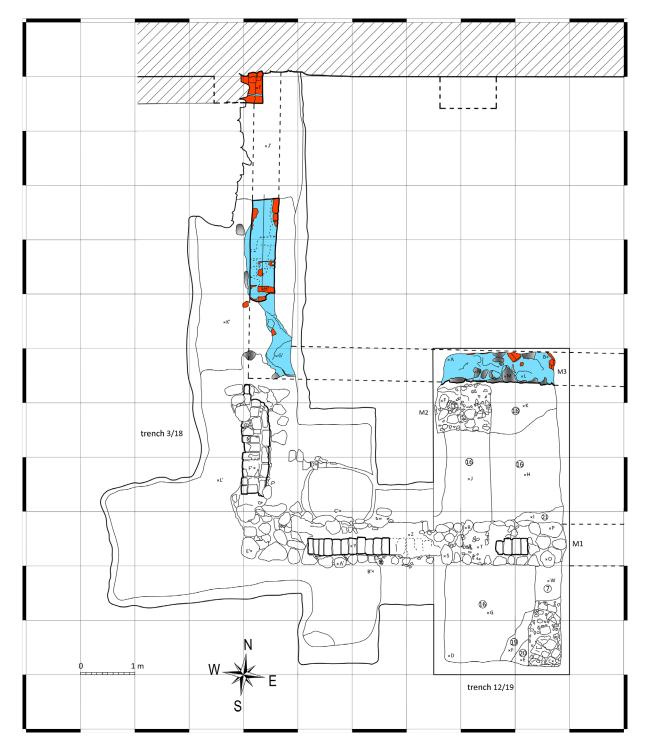


Fig. 14. Trenches 3 and 12 – walls of the medieval utility building (colour) and the new stable building from the mid-16th century (colorless) (drawing by S. Groń, digit. B. Wasik).

assumed that in the north (to the east side of the prison-tower), the foundation of a medieval building (trench 3/18 and 12/19) was discovered, which was about 5.5 m wide (narrower than the early modern stable; Fig. 6, 14). The stone foundation was well built (Wasik 2019a, 78–80), but the small thickness indicates that the wall was most likely built in a timber framing construction filled with bricks (as in the early modern stables mentioned above).

Another very large building with utility functions stood in the southeast (Fig. 6). It has survived to this day, but was largely rebuilt in the 19th century and has lost its original appearance. It measured about 10.8 × 54.9 m. In the 16th-18th centuries, on the ground floor, it housed a kitchen, brewery and bakery (counting from the southwest) along with side rooms (Lustracja 1565, 167; Lustracja 1615-1624, 281-282). Interiors with these functions are already mentioned in medieval sources (Jóźwiak - Trupinda 2017, 49) and, in the light of current knowledge, there is no basis to look for their location in a place other than the one from the early modern period. Above the described rooms, along the entire length of the building, there were two granary floors (Lustracja 1565, 168; Lustracja 1615-1624, 282). This building is identified as a brick-stone granary, which was built in 1400-1403 (Domańska 1971, 25; Pawłowski 2007, 12). Research has shown that this building was extended to the eastern tower in the Middle Ages (Wasik 2019a, 70-71). In 1615, in the ground floor extensions, there was a small stable (Lustracja 1615-1624, 282). Regarding the utility buildings, it should be added that there is information about the demolition of a granary in 1415 in medieval sources (Jóźwiak - Trupinda 2017, 49-50). However, the location of that building cannot be determined.

A distinctive building within the castle was the Grand Masters' residential building. It is known from sources that, at least from the turn of the 14th and 15th centuries, these dignitaries often visited the castle and had their rooms within it. Until recently, the view was popular that the Grand Masters' residential building was in fact the non-existent western wing. Hanna Domańska argued so, pointing to the alleged premises in the descriptions from the 16th–17th centuries, which was then repeated by subsequent researchers (Domańska 1971, 26; Pawłowski 2007, 14; Torbus 2007, 175). Observations from excavations carried out in this area (trenches 4-4a-4b; Fig. 1, 3) clearly showed the lack of medieval buildings at this site. As it turned out, the west wing was a timber-framed building, the construction of which should be dated to the mid-16th century. This is confirmed, in fact, by the inventory from 1565, in which a description of the northern part of the first floor states that there is "gmach pański nowo zbudowany, w drzewo murowany" (the Lord's building newly erected, built in wood; Lustracja 1565, 167).

Several years ago, historians re-analysed medieval written sources regarding the Grand Masters' building in Sztum. They argued that the chapel known from the descriptions from the 16th–17th century, located in the south-eastern part of the castle (south of the granary), was identical with the chapel of the Grand Master. Thus, they indicated the location of the residence (called in sources *gemache*, *somergemahe*, *somerhuwsze*) in the south-eastern wing (Jóźwiak – Trupinda 2017, 39–45).

Current archaeological research has provided important new information regarding the location and shape of the Grand Masters' *gemach*. It turned out that there was not a single building that could be described as the south-eastern wing. The greater part of this side of the castle was occupied by the large utility building described earlier, which housed the kitchen, brewery, bakery and granaries. However, a separate building occupied the empty space between this outbuilding and the south-western wing (Figs. 1, 6, 15). This building housed the chapel known from the 16th–17th centuries' descriptions (Lustracja 1565, 168; Lustracja 1615–1624, 281). Trenches 1-1a, 6, 8 have been carried out in this space. Despite considerable damage to the area, the remains of a building distinguished from the castle buildings were found there (Wasik 2019a, 57–68; 2019b, 123–126). The analysis shows that it was the Grand Masters' *gemach*. It was narrower than the south-eastern utility wing and the south-western *vogt's* wing. It was 9 m wide including the thickness of the defensive wall. From the side of the courtyard, however, it had a gallery on a stone foundation, which in total gave the building

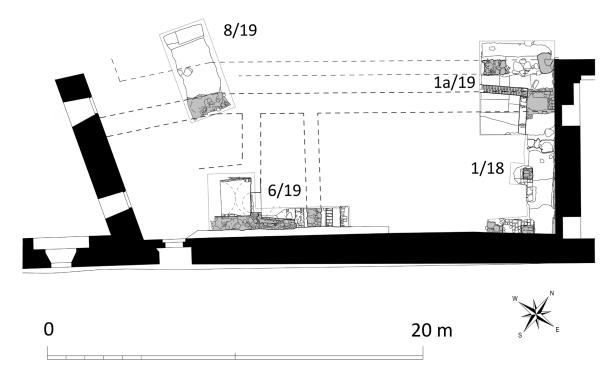


Fig. 15. Plan of the remains of the Grand Masters' gemach. The medieval walls discovered in the trenches were marked in grey (by B. Wasik).

a width equal to the south-eastern economic wing. The foundation was too solid to support only a wooden structure, but too weak to have a fully two-storey brick and vaulted gallery. Therefore, it is likely that the ground floor was built of bricks (likely without a vault) and the first floor was made of wood.

The building had no basement for the most part, but a remnant of a small (interior width - 2.4 m), barrel-vaulted cellar was found in its south-central part. It can be identified with a small cellar mentioned in modern inventories (Lustracja 1565, 168; Lustracja 1615-1624, 281). Because the gemach was added to the shallowly founded perimeter wall of the castle, the cellar in comparison was much deeper. It was accessible through a staircase from the southwest (Fig. 16). The ground floor of the building was vaulted, as evidenced by the pillars in its eastern part (Figs. 2, 15). Modern inventories also refer to vaulted interiors (Lustracja 1565, 167; Lustracja 1615–1624, 280–281). On the first floor, apart from several other rooms, there was the previously indicated chapel. According to the description, it was not large. It had to be located across the building so that the oriented altar side was directed to the southeast. It had one window into the courtyard and one to the opposite side. There was also a lavatory near the chapel (Lustracja 1565, 168; Lustracja 1615–1624, 281). During the research, no evidence was observed that this *danzker* was a tower. Iconography from the 17th–18th centuries also contradicts this claim⁹ (Fig. 11). It had to be a standard small chamber hanging over the outer slope of the castle. More information about the rooms located in the Middle Ages in the Grand Masters' gemach is provided by medieval sources analysed by historians. In addition to the aforementioned, there was the Grand Master's chamber (or chambers), his refectory, as well as the chambers of his courtiers (in 1416 they mentioned the rooms of the treasurer and chaplain, and in 1419 of the scribe, notary and head of the office; Jóźwiak-Trupinda 2017, 39-41).

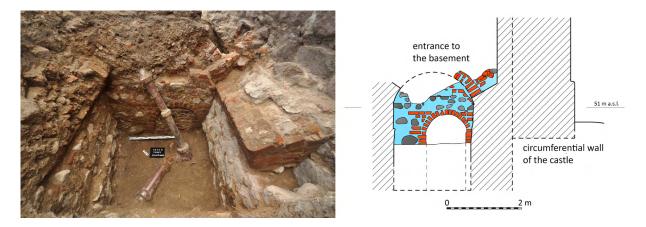


Fig. 16. The entrance to the gemach's cellar uncovered in trench 6 (photo B. Wasik, drawing P. Kujawa, digit. B. Wasik).

The above mentioned medieval building stood out architecturally. In the relics, more sophisticated and lighter architectural solutions can be seen than in other castle buildings. Apart from the presence of the aforementioned gallery, the delicate nature of the pillars supporting the ground floor vaults should be pointed out. Furthermore, only in the context of this building, some variety of architectural detail can be observed within the castle. In the arcade of the cellar staircase entrance, i.e. in a subordinate room, corner brick-profiling using a quarter arch was used, while a damaged profile-brick-stone was found in the cellar-vault construction filling. This means that such a detail was available during the cellar's construction, so it should be connected with the construction of the *gemach*. It should be emphasized that in the remaining castle buildings only ordinary bricks with a bevelled corner were used as a detail. Fragments of glazed brown, less often green and black, roof tiles were also found in the surroundings of the building. Such forms do not appear in the context of other castle buildings. All this indicates the utmost importance of the building.

Analysis of the discovered relics reveals two phases of the *gemach's* construction (Fig. 15). First, a rectangular building was built in a length of about 16.5 m, which did not reach the south-western wing. In the second phase, however, the building was extended so that it took up the entire space of 22–24 m between its neighbouring buildings. The added extension narrows to the southwest, because the wall from the courtyard was set at a different angle so as not to cover the window of the south-western wing. Apart from this change in the wall angle, another construction technique and foundation level point to biphasic activity. The foundation of the wall for the first phase of the *gemach* is carefully built of layered stones, while in the second phase the wall was made much less neatly, with mortar poured abundantly on it. The location of the cellar staircase is also decisive. As a result of the extension of the building, it was located in the interior of the building. As a standard, such stairs were situated on the outside (accessible from the courtyard). On the remains of the walls and the staircase vault, there are no traces indicating that the vault would continue inside the new part of the *gemach*. This proves that it was originally a staircase outlet (with a quarter-arch profiling of the arch) leading to the open stairs outside the building (Fig. 16).

Medieval written sources make it possible to establish the chronology of construction works. The first mentions of the Grand Masters' chamber (or chambers) come from 1400 and 1401 (Jóźwiak – Trupinda 2017, 39). However, taking into account the fact that the walls of the building were adjacent to the south-eastern utility wing, which, as we have indicated

earlier, can be equated with the building erected in the years 1400–1403, these references probably address the older rooms of the Grand Master, located within the *vogt's* wing. These remarks could be connected to the discovered *gemach* only if we considered the information from 1399 about kitchen equipment and the kitchen master's inventory as proof that the part of the utility wing housing the kitchen had been built before 1400. On the other hand, information that undoubtedly referred to the *gemach* is the mention of the chapel from 1409 (Jóźwiak – Trupinda 2017, 42). This leads to the conclusion that the main part of the building housing the chapel was ready at that time (phase I). Thus, by 1409, the first building phase must have been either completed or in a very advanced stage. Further numerous instances of information come primarily from the years 1415–1420 and apply to subsequent construction and finishing works (Jóźwiak – Trupinda 2017, 39–43). At that time, the expansion of the *gemach* should be dated as phase II.

An interesting picture of the castle architecture emerges from the characteristics described above. This building had many atypical features indicating the prestigious nature of its architecture, in which military assets give way to residential elements and focus on the emanation of the prestige of power. In the historic panorama of the castle, its three high towers stand out. They were arranged rhythmically in the perimeter of the castle, providing a clear accent. Their number is outstanding, and it should be emphasized that during the construction of the castle (the end of the 14th century), the practice of building traditional high castle towers was abandoned as a result of the development of firearms (Bogdanowski 2002, 84-85; Widawski 1994, 322). At the same time, despite the fact that they bring to mind the main towers of conventual castles (bergfrides), they are completely different in terms of functionality. As indicated, both square towers of the castle in Sztum had relatively thin walls and residential functions - their defensive qualities were very limited. Therefore, it seems decisive for builders to have reached for the old symbolism of the tower related to the semantics of power (Chkieta 2001, 169-170; Kajzer - Kołodziejski - Salm 2001, 28; Lasek 2013, 264-270). The presence of two large castle gates is another intriguing element. Placing them in a one-part castle did not have any clear functional justification and negatively affected its defensive qualities. It seems that, as in the case of towers, displaying prestige prevailed over defensive values (two impressive gates from both access routes to Sztum castle) and the convenience of the residential function. An indication of such arrangement of accents in the architecture of the castle in Sztum is also the construction of defensive walls, which were high, but within arcade niches relatively thin (about 1 m) and very shallowly founded. It can also be mentioned here that the research contradicted suggestions hitherto that the castle had a second line of defensive walls, i.e. parcham (cf. Schmid 1909, 44; Torbus 2007, 173).10 These semantic features indicate that although the castle housed the headquarters of the vogt, it was built with the intention of placing the residence of the Grand Master in it.

Written sources make it clear that since the 1390s, Grand Masters often visited the castle in Sztum. It was a comfortable and safe seat, as one of the Teutonic officials encouraged the head of the Order to take refuge in it during a plague (Jóźwiak – Trupinda 2017, 35, 38; Neitmann 1990, 67–68). Grand Masters came to Sztum for both state purposes and holidays. In addition to the Grand Masters, religious dignitaries, ambassadors and guests were hosted. For example, in 1399, Anna, wife of Witold the Grand Duke of Lithuania, was ceremonially hosted here. She brought along a cortege with 350 horses. The location of the castle in the vicinity of the forest complex also seems to be a reason. One of the travel routes of the Grand Master from Malbork led through the forester's court in Benowo. Hunting, however, was rarely mentioned in the sources. It is known that in 1408, the Grand Master Ulrych von Jungingen was hunting near Sztum. It is also significant that during the first two decades of the 15th century, there

was an animal park by the castle (Haftka 2010, 190–195) despite religious statutes prohibiting hunting, treating it as a slight offense. However, the Teutonic Knights violated these prohibitions in their landed estates. In Prussia, as land rulers, they owned and controlled the right to hunt. The first mention of the participation of Teutonic Knights in hunting in Prussia dates back to the 13th century. It can be concluded that the ban was reduced over time (in the 14th–15th centuries) by introducing exceptions. At least since the time of the Grand Master Dietrich von Altenburg (1335–1341), there exist written sources confirming the custom of dignitaries going hunting. It is pointed out that Sztum had become one such place where time was spent in this manner. The distance allowed travel from Malbork to Sztum within one day. According to sources, the aforementioned animal park served as a hunting ground for the Grand Masters and their guests. Primarily deer and elk were kept there and looked after by two crews. Animals were imported from areas such as the Człuchów (germ. Schlochau) commandry. The animal park was in operation from about 1401, and in 1420 it was transferred to Malbork (Militzer 1997, 326–343, 352–357).

Considering the wider context, it should be noted that in the last half of the 14th century, tendencies to reform spiritual life in the Order disappeared. Especially since the Grand Master Winrych of Kniprode (1353–1382), strict monastic rule weakened and secular tendencies strengthened (Biskup – Labuda 1986, 380). Possession of separate houses (gemache) outside the convent by the commanders and dignitaries is an example of this (Torbus 2014, 241–242). Thus, the castle in Sztum appears as an interesting example of the manifestation of courtly life by the Grand Masters and their entourage. The sub-capital residence had functions similar to those of the castles of European monarchs erected at a similar time, such as Niepołomice of Polish kings or Vincennes in France. Both these castles, although very different in terms of architecture, served as sub-capital residences and hunting places for kings. In addition, it can be observed that Vincennes, built at a similar time as the castle in Sztum, also strongly refers to the semantics of power in architecture, using the ideological significance of the tower; in the case of the French castle, however, it is much more elaborate (Olszacki 2010, 728–729; 2011, 266; Kowalski 1991, 230–235).

As a result of the Thirteen Years' War (1454–1466), Sztum was incorporated into the Polish Crown. The castle became the seat of starosts, who modernized the castle from the mid-16th to the mid-17th century; especially Achacy Czema (1530–1565) and Fabian Czema (1581–1605). From the descriptions from that period, it is clear that the interiors received a new decor, including tiled stoves. Various extensions in a timber framed construction with brick filling were added to the gallery of the south-western wing, including a staircase leading to the first floor. A new building was also added in the southern part of the courtyard to the façade of the former *gemach* of the Grand Masters (Lustracja 1565, 166–168; Lustracja 1615–1624, 279–281). This area, however, was not included in archaeological research, and its significant destruction in the 20th century makes concerns about the condition of the relics of the foundations plausible.

In the mid-16th century, new utility and residential buildings were erected in the north-east, north and west areas of the castle (Fig. 11). Relics of these objects were covered by archaeological excavations (trenches 4-4a, 4b, 3 and 12; Fig. 1). In the north-east and north, a row of stables was attached to the perimeter wall (Lustracja 1565, 167; Lustracja 1615–1624, 283; Lustracja 1765, 34), which undoubtedly followed the utilitarian function of the place since the Middle Ages. The medieval building discovered in trench 12 was gradually demolished and new and wider stables were constructed (8.2 m). In their construction, the foundation of the medieval western (gable) wall was used and extended (Fig. 13). These buildings were built in a timber-framed construction with brick filling.



Fig. 17. West wing – remains of a presumable bakery oven from the 16th–17th century discovered in trenches 4-4b. At top right, a relic of the arcade pillar of the castle defensive wall (photo B. Wasik).

Along the western wall of the castle, buildings were erected in the same period of time, housing utility rooms on the ground floor (Fig. 11). The higher floors were devoted to the living quarters and granaries in the attics (Lustracja 1565, 167–169; Lustracja 1615–1624, 282–283). Until now, as indicated earlier, this wing had been mistakenly identified with the residence of the Grand Master. However, archaeological excavations have refuted this. The nature of the archaeological material (pottery, tiles) confirms that the building dates back to the mid-16th century at the earliest (the oldest Renaissance stove tiles come from that time). During the study, remains of point foundations of the timber framed construction of the building wall were discovered in the form of a large boulder and a cluster of stones in a rectangular foundation ditch (Wasik 2019a, 99–100). In the interior, however, the foundation of a four-sided structure with a small interior has been preserved (Fig. 17). This is most likely a remnant of a bread oven, as descriptions from the 16th and 17th centuries mention a bakery in this area (Lustracja 1565, 167; Lustracja 1615–1624, 282).

In the first half of the 17th century, the castle was surrounded by palisades. Such fortification was located in front of the castle gate. This is mentioned in the description from 1624 (Lustracja 1615–1624, 60). From the analysis of the Swedish plan from the mid-17th century (Fig. 11; org. Kungl. Krigsarkivet in Stockholm, SE / KrA / 0425/06/011, https://sok.riksarkivet.se/bildvisning/K0024698_00001, accessed 07.10.19) however, it appears that the palisades



Fig. 18. Trench 11 – negatives of palisade piles (photo B. Wasik).

surrounded the entire castle on the inside of the moat. The negative of this construction was documented in trenches 7 and 11 (Fig. 18). In the former, it was in the form of a continuous furrow about 25 cm wide, while in the latter, clear circular negatives of sharpened piles were documented. This palisade was constructed in a distance of about 4.7 m from the castle wall in the upper part of the slope. According to the Swedish plan, there was probably one more palisade line below on the banks of the moat.

The castle was destroyed during the Polish–Swedish war of 1655–1660. An image of the ravaged castle is found in a succinct inventory written after the war (Paczkowski 1938, 133). Demolition layers with debris bearing traces of high temperature, including roof tiles glazed and deformed by high temperature, as documented in the western and northern parts of the castle, can be traced to this period. The castle was rebuilt, as evidenced by features such as two lime pits discovered within the western wing (trench 4b). According to the description from 1765, however, the castle did not regain its former splendour. At the time, neither the building added to the old *gemach* nor the extension building connecting the eastern tower with the utility south-eastern wing existed. In addition, the eastern gate no longer operated – the description does not mention it – and it had no roof, as indicated by drawings from the mid-18th century (Lustracja 1765, 33–34).

In summary, it must be stated that the archaeological research of the castle in Sztum launched in 2019 provided much new data for reconstructing the construction technique and spatial layout of the castle. It also verified many opinions in the literature (regarding the presence of the gord, the chronology of the castle, the location of the house of the Grand Masters), which, while not based on solid source premises, turned out to be wrong. Further

research will include the newly discovered eastern gate and the northern and western buildings of the castle.

Notes

- During the analysis, the dimensions of bricks from 27 places were collected. Where possible, 20 bricks were measured at each location. However, this was not always possible. and in some cases there were fewer of them.
- ²⁾ In the case of the Grand Masters Palace and the castle in Bytów, it was also argued that they could be attributed to the same architect (por. Herrmann 2011, 162–163; 2019, 397–412).
- ³⁾ The carbon sample was taken from the pre-castle ground level, from under layers from the castle construction period (trench 12). The analysis was carried out at the Poznan Radiocarbon Laboratory. The calibrated results are of 68.2% probability: 1329AD (13.5%) 1340AD, 1396AD (54.7%) 1426AD, and of 95.4% probability: 1316AD (29.8%) 1354AD, 1389AD (65.6%) 1437AD.
- ⁴⁾ For this information, thanks go to professor Sławomir Jóźwiak; Niedersachsische Landesbibliothek Hannover, Handfestensammlung Brandenburg, Ms XIX, 1083, card 79.
- ⁵⁾ The information about the grange from 1295 was recently linked not to Sztum, but to Sztumska Wieś (Jóźwiak Trupinda 2017, 30).
- ⁶⁾ It is worth mentioning that in the 19th century the height of the walls was calculated at a similar height by Max Töppen (1881, 101).
- ⁷⁾ Castle and city views from 1628 (A. Booth), 1749 and ca. 1750 (Mincer Labeuz Specht Żabiński Kołecki 1981 photos No XV, XVII–XVIII).
- ⁸⁾ It was noted that there is one embrasure per each preserved storey– each on a different side of the polygon. It was therefore presumed that there was one embrasure arranged on every side of the polygonal tower and on this basis the estimated number of storeys was concluded.
- ⁹⁾ Both in the Swedish plan from the mid-17th century and in the map of F. Wolff from 1772, there are no traces of outbuildings from this side of the castle.
- ¹⁰⁾ In excavations (trenches 7 and 11) crossing the southeastern slope, the original arrangement of slope layers was documented, with no traces of a wall. At the same time, it was found that the protruding wall fragment in the west corner of the southwest wing (hitherto indicated as the location of the outer wall) never had a continuation. It was the point where the foundation wall built in the first construction phase of the castle ended.

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Hrad Sztum ve světle archeologického výzkumu v roce 2019

První vědecké studie hradu vznikly v druhé polovině 19. století a na počátku 20. století díky německým badatelům. V 80. letech 20. století byl proveden architektonický průzkum, nicméně hrad nebyl nikdy předmětem rozsáhlého archeologického výzkumu. V posledních desetiletích badatelé v zásadě opakují starší názory. Před pár lety však studie historiků Sławomira Jóźwiaka a Janusze Trupindy přinesly mnoho nových poznatků.

Existoval názor, že hrad byl pravděpodobně postaven na místě pruské pevnosti. Současný výzkum však tento názor navrhuje odmítnout. Na různých místech hradního areálu byla zjištěna úroveň původního terénu, beze stop po starším dřevohlinitém hradišti. Chronologie stavby cihlového hradu byla spojena s první zmínkou o úřednících spojených se Sztumem (ve 30. letech 14. století). Informace o založení *fortalicium* v roce 1377 Albrechtem III. Habsburským byla ztotožněna s přidáním jedné ze tří hradních věží. Nedávný výzkum tuto interpretaci odmítl. Všechny věže byly budovány od počátku výstavby hradu. Datovaný archeologický materiál však potvrzuje, že stavba byla zahájena až ve 2. polovině 14. století.

Hrad měl nepravidelný (polygonální) půdorys, pravděpodobně kvůli záměru co nejlépe využít povrch pahorku. Ze západní a východní strany měl hrad dvě čtvercové věže s obytnými prostory. Jak se ukázalo, obě byly propojeny s branskými budovami. Třetí polygonální věž stála na severu. Největší obytnou stavbou bylo jihozápadní křídlo, kde sídlil fojt. Na severu a jihovýchodě se nacházely hospodářské budovy. Mezi jihozápadním křídlem a jihovýchodním hospodářským křídlem byly objeveny pozůstatky rezidenčních budov velmistra z 1. čtvrtiny 15. století. Na středověkém hradě je patrná převaha obytné a reprezentační funkce nad funkcí vojenskou (vysoké věže s tenkými zdmi, dvě velké hradní brány, mělce založené hradební zdi). ednou z nejdůležitějších funkcí hradu byla rezidence velmistrů a základna pro lov. V blízkosti hradu se nacházely lesy a také zvěřinec.

Od poloviny 15. století přešel hrad do polských rukou. Starostové jej v 16.–17. století přestavěli.. Modernizovali interiér, postavili nové hrázděné budovy včetně západního křídla a staré hospodářské budovy na severu nahradili novými stájemi.

Hrad byl zničen během polsko-švédské války (1655–1660) a navzdory obnově již nezískal svůj lesk. Od konce 18. století byly části hradu zbořeny.

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