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On September 18–22, 2001 the Symposium Castella Maris Baltici VI was held in Lithuania. This is already the 6th symposium for the researchers of the medieval castles. The first symposium was held in Turku, Finland in 1991, the second – in Nyköping, Sweden in 1993, the third - in Malbork, Poland in 1995, the fourth - in Estonia in 1997, and the fifth – in Denmark in 1999. The topic of the conference held in Lithuania was “Contacts and Genetically Dwellings in the Castle Buildings”. Over 40 scientists participated in the conference from Denmark, Belarus, Finland, Sweden, Switzerland, Germany, Russia, Great Britain, Poland, Latvia, Estonia, and Lithuania. In the conference there were not only reports presented but also the most famous castles of Lithuania visited in Vilnius, Trakai, Kernave, Kaunas and Klaipėda. The time of this conference coincided with the European Heritage Days “Defensive Fortifications in Lithuania”.

This conference was organised by the Public Institution Academy of Cultural Heritage established by Vilnius University, Vilnius Academy of Arts, Vilnius Gediminas Technical University, Ministry of Culture of the Republic of Lithuania and Department of Cultural Heritage Protection. The Symposium Castella Maris Baltici VI was sponsored by the Department of Cultural Heritage Protection. The Center of Cultural Heritage funded the publishing of this publication. I would like to express my gratitude to Diana Varnaitė, Director of the Department of Cultural Heritage Protection, Vitas Karčiauskas, Director of the Center of Cultural Heritage, Aivydas Nikžentaitis, Director of Lithuanian Institute of History, Juozas Baudoukas, Director of the Publishing House Savastis, and editors of the publication prof. Werner Meyer and dr. David Gaimster.

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Dr. Albinas Kuncevičius
ners were difficult to defend against an enemy inside the curtain wall. The small dimensions of the towers also means that only a few men could stand inside them. They might have been watchtowers, and from them men armed with crossbows or possible handguns could defend the church against a small force, like a band of raiders. The northern tower is connected to the church by a secondary wall with a doorway which has no trace of a door. The date of this wall is unknown, but it is probably medieval. It is clearly secondary to the chancel.

According to an 18th century source the curtain wall was raised as a defence against the "Russians", a name that can mean all eastern people. There are stories of raids by Karelians to this region in the 15th century. In 1338 the neighboring church of Lenvik and the manor of Bjørgan were plundered and burned by a band of raiders (Bertelsen 1984: 252).

Such raids are the probable explanation for both the concentration of the priests and the defensive wall. Bishop Nænested notes in his diary of 1750 that "the churchyard has been surrounded by a beautiful tall wall, a part of which is preserved on the eastern and southern side. On the eastern side by the chancel have been the churchyard wall two watchtowers that still have their vaulted (i.e. arched) doors, corridors and stone stairs, and also a parapet. Through the said beautiful, but now delapidated wall is a vaulted (e.g. arched) doorway to the (north), and a large gate to the south (Figs. 12-13), above which is said to have been a tower, in which the great bell is said to have hung" (Ryjord 1913: 33 (author's translation)). The curtain wall was earlier taller than today, 14-16 feet / 4.2-4.8 m (Ryjord 1913: 34).

Next to the church, on the present minister's residence, remains of medieval cellars have been observed, and many finds, e.g. imported pottery, tell about affluent inhabitants. This must have been the residence of the priests' college in peaceful times. A church surrounded by a curtain wall is known only in one other place in Norway, at Gran north of Oslo, where two 12th-century churches were protected by a wall dating to the late 13th century or later. Today, only a square corner tower is preserved (Ekroll 1995: 96).

The wall and towers of Trondenes were strong enough to resist attacks from raiding bands of robbers, but not an organized attack by an army. It was only the former that posed any threat to this area, as it was too far to the south for Russian armies to reach. In case of an attack, the local population could retreat behind the walls for protection and defence. The coastal population of Norway was organized in small areas called skipreider, each of which should maintain and man a ship for the defence of the country, the leidang. In the rookery of Trondenes, a cut-up sail is used to cover up cracks between the planks. The enormous attic above the nave could well have been used to store the sails and other equipment belonging to the leidang ship of Trondenes. However, by the middle of the 15th century the leidang organization was hardly functioning any more, and it is just as probable that the sail belonged to one of the archbishop's ships. The attic could also be used to store the large quantities of dried codfish before it was shipped to Bergen and sold to Hanseatic merchants.

There is no indication that the secular powers had anything to do with the building or the maintenance of the defensive wall at Trondenes. It is a purely ecclesiastical establishment. When the threat of attacks from the east subsided after 1478, and especially after the Church was reformed in 1537, there was no longer any need to maintain this wall. It gradually fell into disrepair, until in 1750 less than half of it was preserved and today even less.

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Die Burgen auf der Insel Hjelm – ein Nest für Gesetzlose

Introduction

In 1286 the Danish king Erik Kålling was murdered in Finnerup Barn (Fig. 1). A group of noblemen, belonging to some of the leading families in the land, were convicted as participants in the murder. They fled the country and allied themselves with the Norwegian king, who at that time was at war with Denmark. In the years 1289–93 the outlaws, together with the Norwegian king, attacked the Danish coast with large fleets of ships. During this period of war, Hjem island, right in the middle of the Danish kingdom, was fortified in 1290 by the outlaws and the Norwegian king (Fig. 2). This became part of the power-struggle between the two countries. The island became not only the place from which attacks and plundering expeditions were launched, but also, with the help of captured masters from the Royal Mint, the place where counterfeit coins were made. The occupation of the island lasted until 1306, when the Danish king attacked and burned down the fortifications. This we know from written sources such as a treaty made between the Danish and the Norwegian kings in 1295 and documents in the Vatican from 1297 concerning a court case between the Danish king and the Danish archbishop (Olsen 2002).

Fig. 1. The conspirators ride away from Finnerup Barn after the murder of King Erik Kålling. They are painted as an illustration of the oldest ballad about the murder: "So many men in Denmark all want to be masters" with the refrain "That is why the country is in trouble". Painting by Otto Bache. Det Nationalhistoriske Museum på Frederiksborg

Folksongs about the outlaws and specially their leader, Marsk Stig, were written down during the Renaissance. By then, Marsk Stig had become the ideal of a mediaeval knight and Hjem was pictured as the place where he fled with his family and built a castle as his home. This version of the story became very popular and has lasted until the present day (Jørgensen 2002).

From the beginning of the 14th century until the beginning of the 19th century, Hjem was uninhabited, but written sources inform us that it was used occasionally for horse breeding. The middle of the island is a huge morainal hill of 35 hectares which rises with steep sides 40 metres above sea level. The foreshore has changed a great deal since the Middle Ages and it is uncertain which parts of it existed at that time.

From around 1800 until 1964, when the island once again became unoccupied, it was brought under agricultural cultivation and, on several occasions during that period, when fields were being ploughed, counterfeit coins were found. Between 1854 and 1856, when a lighthouse and outbuildings were erected on the formerly fortified central part of the island (Fyrokkene - Lighthouse Hill), the remains of a cella made of granite boulders were found, but no archaeological excavation was carried out. In 1894 trial excavations took place at Fyrokkene and two other fortified sites, Skaadebakken on the east of the island and Kastelsbakken on the west, but the results were disappointing. They did not find the splendid remains of Marsk Stig's castle on Hjem, that the folksongs and nationalistic romanticism had invented, and they did not find the Mint, where the counterfeit coins had been made. Again, in 1952, there were minor investigations. Remains of timber constructions from the motte-like fortification were found on Skaadebakken and stone pavements and possible stone foundations were investigated on Kastelsbakken. The dating of the finds was uncertain and one of the theories was that Skaadebakken was an 11th century motte which served as a lookout and signal post, while Fyrokkene was "Marsk Stig's castle", that is the castle dating from the period 1290–1306. Kastelsbakken was probably part of the outlaws fortification too, but could also be a fortification from the war between Denmark and Sweden in the 17th century or perhaps from the time of the Napoleonic wars at the beginning of the 19th century, when Denmark was fighting the English.

Thanks to funding from A.P. Møller og Hustru Christine McKinley Møller's Foundation and the Aage og Johanne Louis-Hansen Foundation it was possible, in 1998 and 2000, to carry out 10 weeks of archaeological investigation with a large team, both on the fortified sites at Fyrokkene and Kastelsbakken, as well as on the open land, where we tried to locate the Mint. The research project has been a joint enterprise between Ebeltoft Museum, Moesgaard Museum, the National Museum and the Medieval Archaeology Department at Aarhus University (Fig. 3).

Fig. 2. Map of the King of Norway's war-campaign in Danish waters, waged together with the outlaws in 1289

Fyrokkene Castle

Fyrokkene, Hjem's most noteworthy mound, lies in the middle of the island, 45 m above sea level at its highest point. It lies on a morainal ridge running north-south and from here the land falls evenly on all sides down towards the coastal cliffs. Today the mound appears as a rectangular hilltop stronghold 50x30 m, ringed by a dry moat of up to 22 m wide, the bottom of which lies 8 m below the top of the mound (Fig. 4). To the east there is no trace of a moat. Either it was filled in when the lighthouse keeper's house was built...
in 1856, or there was no moat on this side. Mother Nature has seen to it that the land drops sharply away to the east. On the western side, the bottom of the moat is 2m lower than the surrounding area. In more recent times, a winding path, a cart track up the mound's north side, has provided access. The lighthouse and the keeper's house with its 3 wings cover most of the hilltop. The area around the buildings, which is only about 3m wide, has not been built on and is covered with grass and plants. The northermost part of the hill, where the lighthouse stands, rises a good metre higher than the rest of the hill. The slope is sudden and precipitous. There are no visible remains of the medieval stronghold.

Today Fyrebakken is a protected site, which in practice means that only minor archaeological work is permitted. From the beginning therefore, the archaeological digs were carried out within a very narrow framework. For that reason trial ditches were dug in field 1–5 so that we could form an overview of the cultural strata on the different parts of the hill where we could dig, away from the lighthouse and the keeper's house (Fig. 5). In situating field 1 where we did, important information about earlier building construction on the hill was taken into account and this was the only site on Fyrebakken that was later extended. Field 2 was excavated as a long investigative ditch from the top of the hill, down through the moat to the west and out onto the open land, so that we could understand the moat's original size and shape. Sites 3,4,5 were situated respectively on the S, N and eastern edges of the mound.

Originally the ridge in the middle of the island rose about 42 m above sea level. It was the island's highest point. This was used when the castle was to be built and a moat was dug and the southern end of the hill removed. Excavations on field 1-5 made it possible to determine the level of the ridge, which became the castle mound. The former vegetation layer of the hill was a 25 cm thick layer of light brown sandy soil containing a little charcoal and small lumps of clay. To the south the hill's surface was 42.40 DNN, to the north 41.35 DNN and to the east 41.55 DNN. All in all, a fairly level plateau, rising about one metre in the south. When they decided to use the ridge as a castle mound, they chose also to change its shape, making it higher with clay dug out when the moat was formed. The mound was raised by only 0.3 m in the south (field 3) but in the north 1.6 m of clay were added. This meant that they not only smoothed off the hill's different natural levels, but also made it higher in the north where the approach route must have been. This meant that the castle mound was a good metre higher than the ridge north of the moat - a valuable difference in level from the strategic point of view.

The most significant element of the fortifications was the height of the mound, which was further strengthened by an 8 m deep and about 22 m wide moat. In the ditch (field 2), dug down the side of the rampart and out through the moat, we were able to establish that today they are, generally speaking, the same shape as they were in the Middle Ages.

On the very eastern edge of the mound, (Fig. 5), a posthole of more than 1.2 m was recorded. The post was dug 1.4 m down into the clay. The impression of the post itself lay outside the field but the large dimension of the hole shows that the post was a massive one. The fact that the post was placed towards the edge of the mound lends itself to the interpretation that the castle mound was protected - as was confirmed on Kasteitsbakken - by a strong palisade along its edge. This interpretation is strengthened by a concentration of iron nails found on field 3 at the southermost end of the mound. These were found in the burnt stratum dating from the time when the castle was overthrown and can best be explained as nails used to build the palisade.

The castle was approached from the north. A difference in height of only one metre would not have made it difficult for people or vehicles to come into the castle. At this point the moat was 12 m wide. It is quite possible that in the north there was a smaller redoubt, an additional defence to protect the connecting bridge, the castle's weakest point. So a 30.5 m long x 5 m wide exploratory ditch was dug northwards down a steep slope, which could be the remains of another moat (Fig. 5). However this slope is a natural one and, since another ditch out to the west revealed no traces at all of a moat, the idea that there was a redoubt on Fyrebakken can be dismissed.

On the small excavation sites, the remains of three buildings were investigated (Fig. 6). A large building oriented east - west stood on field 1 on the northern part of the hill (building 1). The northern half of it lay within the boundary of the site. Fortunately the site of the building was in a good state of preservation and yielded valuable information that enabled us to observe details of its construction and alterations during the 16 years that it was part of the outlaws' stronghold. The building had several rooms of different construction. In one of them the floor was
and-doub infill and sun-dried bricks. When the lighthouse and the keeper’s house were built in 1854, there were indications that a cellar had existed on the site. Where precisely it was, we had no idea. On the ground plan it measured roughly 4 x 3 m, was 2.5 m deep and set with rocks on the inside, daubed with clay mixed with straw. Not a very impressive cellar. All in all, from the buildings we now knew of on Fyrbakken and elsewhere, it was clearly the castles military aspect that was dominant. As far as we could judge no emphasis was laid on the social prestige of these and other buildings. The assertion that the archaeological evidence makes, is far removed from the fantasies in the folksongs and romantic and nationalist stories of the 18th century about Mørsk Stig’s castle with its walls and turrets.

**Findes at Fyrrbakken Castle**

The buildings on Fyrbakken were not impressive, nor do the finds there suggest the presence of some of the many buildings that can be seen in the sites, except for the many remains of meals in the form of bones from venison. (Enghoff 2002). Here we can see a trace of their upper class self-indulgence. Haunches and shoulders of venison were brought to the island. They raised pigs and poultry and veal and lamb formed a not inconsiderable part of their diet. A population of rabbits which, as we know, quickly reproduces themselves, was also a basis of sustenance. Fish have at all times played a substantial role in the diet of islanders. Cod was on the menu at Fyrbakken, comformants and crows too. The inhabitants of the little island have always been heavily dependent on nature’s larder.

Amongst the finds of copper, copper used for coin minting predominates, as is the case all over on the island. Thirtyseven coins and 8 blanks were found in the culture layers in and around buildings 182. In addition, there were 15 pieces of scrap copper, apparently fragments of pots, and thin copper strips which can be interpreted as raw material for smelting. There were also 5 copper ingots, 2 of which were fully hammered out — fine examples, 13.5 cm long which lay side by side and very close to each other at the bottom of the north-south wall ditch in building 2. It looked almost as if they were house offerings. A few drops of melted copper confirm that copper working took place on Fyrbakken too. Pieces of copper, which can be linked to coin minting, were also found in the ditches on field 25.

Findings of iron were limited to a key, various small fittings and a chisel. Several pieces of iron slag confirm that iron working went on close to field 1. This might have taken place to the east of the mound on field 5, where a great deal of slag indicated that here we were close to the forge in a smithy. One crossbow bolt head was found on Fyrbakken. It lay in field 3 in the south of the mound, in the layer from the burning of the castle. It was the only object found on Fyrbakken, which gives rise to thoughts about the military aspect of the castle. Yet we are dealing with the central part of the castle here, which we may take as being the residence of the owner. One cannot infer, from the evidence of a single crossbow bolt, that battles took place on Fyrbakken.

Sheds from bovis, pots and pitchers lay spread throughout the culture layer. Danish produced household utensils, especially greyware or lead-glazed pottery were in use on Fyrbakken, but they also had imported earthenware from the Rhineland (Dr. Jette Linna Larsen analysed the pottery). Two bronze sewing needles, a belt buckle along with several small decorative pieces, bear sparse witness to the fact that the inhabitants repaired their clothes and, in spite of the fact that this was a military camp, allowed themselves some decoration on their clothes.

The above-mentioned black layer of burnt wood appeared with or just above the remnants of the
buildings on field 1,3&4 and can only mean that the outlaw's dwellings were destroyed by fire (Fig. 8E). Taken with the written sources' description of how, in 1306, the Danish King Erik Merved took the castles and set fire to them, this can only mean one thing — the layer of burnt material is the result of that. The date is confirmed by the coins and the other finds. With this conquest, Hjeml disappears from the mediaeval written records. It was therefore surprising that a layer of clay about 1.3m thick could be seen on top of the burnt layer (Fig. 8F). No finds were made which could date this layer of clay but it was obvious that it was thrown on immediately after the fire. Nothing indicated that anyone had walked on the burnt layer, nor were there any signs that sand, soil or other material had blown across it. On the large field 1 particularly, it was found that the layer of clay was pressed down between pieces of the burnt out building. It was placed there soon after the burning down of the castle. It was either Erik Merved's men who thought they would use the castle themselves and had chosen to strengthen it, or, more likely, it was the Norwegian king and the outlaws who, shortly after the sacking of the castle, returned and began to build a stronger fortification. In the letter that the Norwegian king wrote on 25th November 1306, he rightly complains that Erik Merved broke the agreement of 1295, which stated that Hjeml was under the protection of the Norwegian king. We may imagine that he enforced that right by sending people back to the island to rebuild the castles. The balance of power between the Danish and Norwegian kings had altered markedly when the Norwegian king and the outlaws in 1289 and subsequent years raided the Danish coasts and apparently, without great resistance, ruled the Danish seas. Hjeml no longer had any significant strategic importance for the Norwegian king, nor did the outlaws and their successors have the same meaning for the Norwegian king as they did earlier in the Nordic struggle for power. The new fortifications were never finished. There was no layers that indicated activity on top of the newly raised area of the castle mound in any of the sites we excavated on Fyrbakken. It is noteworthy that, apart from the above-mentioned crossbow bolt head, no weapons or parts of weapons were found on Fyrbakken, even though metal detectors were used extensively.

The impression given is that the castle was built in great haste. Sides of boats and other materials at hand were used in the construction, but the fortification itself, the high and steep castle mound, crowned by a strong wooden palisade, was nevertheless equal to the strongest of castles of the period (Fig. 9). This may be the reason that Fyrbakken Castle, probably the only one of the castles, was not taken by force when Erik Merved and his men took the island in 1306. The lack of finds of weapons and parts of weapons more than suggests this. We can assume that the defenders surrendered the castle after negotiations with the king. As was clear from the excavations, this did not spare it from the same fate as the other castles on the island. It too was burnt to the ground (Asingh & Engberg 2002A).

Kastelsbakken Castle

Kastelsbakken is a natural knoll, which rises up in the west about 6-8 m above the plateau and a good 35-39 m above sea level. The hill measures 65 m north-south and 39 m east-west. The castle mound is highest towards the south. The two castle sites, Kastelsbakken and Fyrbakken are separated by about 130 m.

A series of trial trenches and an excavation site were laid out (Fig. 10). Access to the castle was not proven by the somewhat limited excavations, but the gateway to Kastelsbakken must have been facing in the direction of Fyrbakken Castle. The moat was not at all impressive, with a maximum depth of 1.25 m and a width of no more than 7 m. The rampart nearest the excavation in the moat consisted of exactly the same layer of gravel which we found under the moat. This clearly indicates that the rampart was constructed from the material dug out from the moat. The moat, because of its shallow depth, was probably dug out primarily to provide material for the building of the rampart on the castle mound.
We found evidence of the rampart in three places on Kastelsbakken. Trial ditch 1, which ran approximately north-south, cut through a layer of added clay which is the remains of the rampart. The base of the rampart was 7 m wide at this point. It was about 3 m higher than the top of Kastelsbakken. On the outside, the rampart material was probably held in place by a parapet, which functioned as a breastwork on top of the rampart.

An area of a good 100 m² was opened around the western part of trial ditch 4 (Fig. 11). It was possible to see a row of large postholes in the soil. Each posthole consisted of the hole itself and traces of a post. This showed that the posts had had a diameter of 25–35 cm. Most of the traces of posts consisted of brownish sandy soil or yellowish clay, but in several cases, the postholes were empty of material, just as was the case on Skådebakken when this stronghold was excavated in 1952. The woods have rotted away, and a new space was left in the compacted layer of clay. The postholes were dug down through the vegetation layer and the clay all was clearly visible when this level was reached. They were sunk 1.5 m below the original layer of vegetation. Subsequently, when the encircling rampart was erected, clay was packed around the postholes so that they were exceptionally deeply set (up to more than 3 m), which indicates, that the building erected a substantial height of 2 or more storeys. Everything points to the fact that the building indicated was a defence tower built into the surrounding rampart. Large quantities of iron nails, suds and charcoal indicate that the wooden tower burnt down.

If Kastelsbakken were to provide an effective defence for its inhabitants, there must have been several towers. The postholes in the out line of trial ditch 4 are probably part of yet another tower. Logically there must have been at least a third tower on the southernmost part of Kastelsbakken to make it possible to cover the sides of the rampart from the towers. (Skov 2002, p. 147)

Fig. 10. Kastelsbakken with trial ditches and field of the investigations in 1999 and 2000. Measured and presented by P. E. Skovgaard-Jensen, H. C. Clemmesen and C. Dam

Fig. 11. Kastelsbakken. The excavation fields from 2000 at a level corresponding to the original vegetation layer v. The vegetation layer has been ploughed away in the areas where the underlying bleached sand/silt is exposed. fm: bones filled with ash and charcoal from the short period between when the outlaws came to Hjelm and when the ring rampart was built. The 12 large post-holes of the wooden tower show clearly in the vegetation layer v. There are some slits (d) and postholes (dtz, ew, fo) that are from the time when the outlaws lived in Kastelsbakken. The post-hole ew is very deep and may have been part of one of the buildings for the garrison: ab: Trial ditch from 1984; aa: probably part of the excavation field from 1952. Dotted line: trial ditch. Dotted: not found. Measured and presented by Hans Skov and Peter Bye Jensen

Finde from Kastelsbakken Castle

Most of the pottery is greyware or lead glazed and produced in Denmark. The shape of the vessels ranges from pitchers and bowls to pots. A smaller amount of the pottery from Kastelsbakken consists of two types of imported stoneware from the Rhineland in Germany and Rhenish pottery from northern France. This type of pottery is no different from what one would expect to find in a Danish town of the time.

Amongst the finds, there are small rivets and various types of pottery. The most common objects are cooking pots, cooking pots, and other vessels that are to be found everywhere on Kastelsbakken. As they are on the other parts of the island where investigations took place, it is likely that the castle area was included in the production of counterfeit coins. The 73 coins that were found at the castle were likely to have been dropped during day to day activities. Amongst the other objects in copper and bronze can be mentioned a fine pendant in the shape of an eagle (Fig. 12). Most striking was a strange little decorated cylinder that was soldered together at both ends so that one could keep something carefully secured. A reliquary perhaps or a sealed ampoule for a confidential message on parchment. Objects made of bone included a small number of dice, unfinished dice, gaming pieces, a decorated fitting and a fragment of a bone flute.

The aforementioned rampart, the encircling moat and the wooden tower bear witness to the strong fortification of Kastelsbakken (Fig. 13). The 18 crossbow bolts and 3 spear points indicate that the castle was fought over at the time of its defeat in 1306. The wooden part of the castle was burnt to the ground, the rampart was levelled off and down the sides of the mound. The destruction was almost total and Kastelsbakken never again functioning as a stronghold (Skov 2002).

Skaadebakken

The southernmost corner of Hjelm's great central morainal hill is a castle mound in the shape of a truncated cone, the surface of which rise 15.5 metres above sea level and about 14 m over the low-lying forest (Fig. 14). The castle mound is made up of the end section of a natural ridge, which has been isolated by the construction of a moat, 12 m wide and 2.5 m deep. Today a foreshore about 50 m wide shields the morainal hill from the sea, but this was not the case around 1300. A carbon-14 dating taken from one of the dykes on the beach near the castle mound, shows that the foreshore developed after
Skaadebakken was not investigated archaeologically in the excavations of 1999–2000. It must be supposed that the modest-sized castle mound was more or less fully excavated during the archaeological investigations in 1894 and 1952 respectively. From the 1892 excavation we know only that they found alternating layers of clay and sand to a depth of 1.5 m and a single posthole around the middle of the mound’s top surface. It is my colleague Hans Stiesdal’s detailed account of his excavation in 1952, that is the basis for the description of the stronghold. Report by Stiesdal 1952 in the National Museum of Denmark). He was aware that, since the outlaws’ time, there may have been one or several landslips on the stronghold’s eastern side towards the sea. This was evident in the south-east corner itself when he excavated in 1952 but he did not think that this had removed substantial parts of the original castle mound. The excavation was laid out so that it covered the southern part of the hill (Fig. 15). The new excavation site was a slightly irregular 4-sided shape, 8.4 m long east-west and about 3.4 m wide. It was dug out in layers to a depth of 1 m below the surface. He then continued to dig in the south-west corner of the site to a depth of 2.4 m, where he had to concede that down to this depth the bank consisted of the same material as in the first metre he dug: alternating layers of gravel, sand and clay with large lumps of clay in the sand layers and a few stones. He was able to conjecture the combined thickness of the layers from the postholes of about 3 m deep – which we shall discuss later. These were seen as having been added when the castle mound was being built up. From our experiences in the new excavations, on Kastelsbakken in particular, where exactly similar postholes were found, it is probable that only the top 1.5–2 m were added, whilst the lower 1–1.5 m of the posthole here too was dug into the natural morainal hill. The moat was not examined but it was clearly visible then before vegetation on the island took over. The 12 m wide moat was 1 m deep – 2.5 m in fact where it met the castle mound – and stood dry. As far as defence purposes were concerned it was enough to secure the approach to the castle mound, for there can be no doubt that there was a bridge over to the mound from the highest part of the ridge, west of the mound.

On excavation the first indication appeared, 25–35 cm below the surface. This was a well-preserved layer of hard-baked clay, almost square (1.4 x 1.4 m) with rounded corners, which had a narrow black border (Fig. 16). This layer of burnt clay was 1-2cm thick and formed the top of a 10–15 cm thick layer of hand-sized stones packed in clay. A typical oven base – and it was noticed that on top and at the sides of the oven there was a small layer of hard-baked clay, which could be the oven covering. The earlier observation of “walling” of burnt clay mixed with straw can very easily have been part of the oven covering to which a concentration of stones also belonged.

Kastelsbakken is the name of the castle mound. “Skaade” comes from “at skue” to observe or keep a look-out (in Old Danish: skote; Swedish: skaade; Old Norse: skotli) Combined with the word “hill” or mound it means “a place to keep a lookout” and it has long been accepted that the place was part of the outlaws’ defences; or rather there is an assumption that the outlaws built up on the early mediaeval stronghold. Abroad Kastelsbakken is seen as the best-known example of a Danish motte. This is because Sophus Mueller in his book “Vor Ølrit” (Our Ancient Past) characterised it as such and through the German edition in became known in the wider world. (Mueller 1897).

The oven was stoked from the western side where there was a 1.5 m long and 75 cm wide clay floor, on a level with the base of the oven, and ringed by a single row of hand-sized stones. Three fragments of badly damaged and misshapen bricks were found associated with this feature. There is little doubt, from our experiences in more recent excavations of a similar feature that the few remains we have here indeed belong to the very hearth itself. This whole feature therefore is a fully equipped kitchen with both oven and hearth such as are known from farms in the middle and late mediaeval period. (Engberg 1986). With our excavation it was not possible to date the site of the oven on Kastelsbakken more closely – a matter that Stiesdal underlines in his report, in which he also emphasises that the connection to other traces found on the site must remain an open question.

At the dig in 1952, apart from the kitchen area, 5 postholes in all were discovered. They were proven at different depths, just as they were in the new excavations on Kastelsbakken. It was harder or impossible to see in the very mixed up layer of added filling. In 1952 the postholes were categorised in two different groups. Three of them were proven to a depth of 1.5 m. They were square in shape with a diameter of between 15 and 17 cm. In Fig. 15 they are indicated by the Fig. 3. Between two of them lay a strip of clay 10 cm wide and about 8 m long together with a rolled piece of wood with 10 evenly spaced iron rivets in it. A similar construction was dug up on Fyrbakken in 1999 and it was clear that the wood and the rivets had belonged to the side of a boat reused as part of a wall in a building. We can attribute the same function to the piece of wood with rivets in it on Kastelsbakken. Apart from two other postholes, Stiesdal was not able to uncover any further details of buildings during the excavation.
Two of the postholes aroused his justified excitement. They appeared suddenly like “an empty hole caused by the earth collapsing”. They were measured with an iron pipe to a depth of almost 3 m. At this point the pipe reached a solid base without it first having to be pushed through loose filling. It was from this observation that at that time it was judged that the filling on the castle mound was about 3 m deep, whereas we can say today, as already mentioned, it must be more modest, just 1.5–2 m, because the posts were sunk 1–1.5 m into the morainal hill. There was not the slightest indication that the posts had been burnt, on the contrary it is quite certain that they rotted away in the holes because the imprint of bark was found in the corners. The observations do not of course exclude the possibility that that part of the posts that stood above ground may have been burnt. The posts were hewn on four sides but as they were not cut very exactly it must have been whole, probably young trees that were used. No wood was left in any of the postholes examined so far, so the types of tree that were used cannot unfortunately be determined. The traces of post show that the dimensions of one post were 21x23 cm and the other 22x22 cm. There is no doubt that these two posts buried so deeply were part of a tower-like construction. There is no longer any doubt either that the building constructions that were found on Skaadebakken have so many similarities to those we dug up on the other two mounds, that they were part of the defences that were built when the Norwegian king and the outlaws fortified the island in 1290.

The archaeological investigations which took place on Hjelm in 1999 and 2000 were much more extensive than the earlier ones and during the intervening years archaeology has developed both in terms of methods and documentation, so more and more observations were made during excavations on the two other castle mounds, Fyrbakken and Kastelsbakken. Today, for example, we can make use of machines, which enable us to dig deeper into the castle mounds and remove the piles of earth so they do not impede our overview of the excavation sites. The sides of the tower on Kastelsbakken were 6.5 m long and the posts, four on each side, stood about 2.1 m apart. Bearing in mind both to the depth in which they were sunk into the mound and their dimensions, they are more or less identical with the large posts on Skaadebakken. There is however a difference. The distance between the big posts on Skaadebakken is 3.2 m. Obviously too few details are known about the buildings and their construction for us to be able to determine their shape and precise location but with the knowledge we now have about the construction of the buildings on Fyrbakken and Kastelsbakken, it is possible to make a few suggestions. There might be large posts that were overlooked during the excavations. On Kastelsbakken it was only when the added layer was removed from the castle mound with machines that all the postholes were revealed. If this is the case, one might suppose that the buildings on Skaadebakken had only 1.6 m between them rather than 3.2 m. If we think of there being four posts on each side, as on Kastelsbakken, that gives a side 4.8 m long. With the two known posts as starting point, the building must have been located in the middle of the mound (see Fig.17 a). This solution is not entirely convincing. If this were the case, there should have been four further postholes, which was not seen in the excavation and that does not seem likely; but first and foremost what argues against this is that the west wall would then be placed in the middle of the kitchen area.

On this modest castle mound there is in fact room for a slightly larger ground plan than that described above. Five posts on each side would give a side length of 6.4 m. This gives two further possible locations, again using the two known postholes as starting point. Either one location out on the eastern side or one more central. The eastern location would have a wall out over what is today the mound’s eastern slope, but that is reasonable, because it is there that the sea has eroded part of the castle mound and caused it to collapse. As can be seen in Figs.17b–c, both these locations would give buildings with a west wall standing diagonally across the kitchen, so this suggestion is not likely either. There remains one last possibility: this posts a building that covers the whole of the mound (Fig.17 d). With this solution we estimate that there was room inside the building for a kitchen and this does not mean that there were postholes, which were difficult or impossible to find in 1952. In the building there were therefore 3.2 m between the wall-posts. But two more on each of the long sides, gives the building a total length of 9.6 m and its width could scarcely have been more than 6.4 m (Fig.18). This is a size that is well-known from the stone houses in mediaeval castles, which, with the addition of three or more storeys are called “tower-houses” in English.

For those leaving the castle, we may imagine that there was narrow drawbridge over the moat. It was not necessary to take horses or carts to the castle, so the bridge was exclusively for pedestrians who were led over to the building’s west gable where we assume steps led up to the second storey entrance. There is not much to be said about the interior of the tower. The kitchen, as we have seen, was on the lowest floor and had a small floor space with an oven and a hearth. Part of the assumed run of a wall is not enough for us to guess the layout of the rooms. But the fact that the side of a boat was found to be part of a wall shows that the fortifications on Skaadebakken too were erected in great haste, using all the materials to hand.

The castle was sited as far out towards the island’s east coast as possible. Here there was a clear view of the sea to the east and this was a deciding factor in the siting of the castle because, from Fyrbakken, the island’s main castle, it was not possible to control who or what was out at sea. That they chose to make their lookout post apparently so strongly fortified, is probably due to military considerations: that the three castles acting in conjunction with each other were
Between the strongholds

The 35 hectares of Hjelm's great moraine hill are a more or less impenetrable wilderness of thorns, brambles and thistles with patches where wild cherry holds sway. Vegetation has grown on the rest of the surrounding area since agriculture ceased in 1964. Today it is quite difficult to orient oneself up on the high ground, but in winter it is still possible to make out the old agricultural landscape with marked rises in the terrain and dikes which in some places have the character of a rampart. Naturally the mediaeval landscape changed with agricultural developments from the 19th century onwards. Even if cultivation stopped before the big deep-ploughing implements became part of modern agriculture, it nevertheless levelled off the terrain and blurred the mediaeval conditions, which included disturbing or removing the remains of buildings, paths or other features that lay in the path of the plough. This is a well-known phenomenon on open agricultural land in general which, naturally, occurred on Hjelm also.

One of the aims of the many trial ditches we dug between the castle mounds was, as far as possible to locate possible stables, storehouses, dwellings or other buildings which must have been necessary if one was to be able to stay on the island throughout the whole year. For example, examination of bones from Fyrbakken and Kastelsbakken show that, all the year round they kept cattle, sheep and pigs and that required cowsheds and cattle-pens. To this can be added chicken coops, facilities for geese to survive in winter and, somewhat surprisingly, rabbit hutches. Meanwhile there were only a few traces of buildings, in the form of scattered postholes and narrow wall channels. As became common practice at the time, the remainder of house sites were built on a stone foundation with the stones laid more or less directly on the earth. These were what the plough removed first when the island was again cultivated in the 19th century (Asingh, Klemansen and Engberg 2002).

Counterfeit coins

According to the written sources, when the outlaws took Hjelm over, they took some of the king's mint-masters with them. They may have been taken prisoner in recent raids from which the outlaws also brought home a great number of copper artefacts from the plundered towns.

War was waged on several fronts including the economic one. Issuing coins was a royal privilege, the king's sole right. It was a powerful assault on the king's authority if coins were counterfeited and distributed and came into circulation along with the royal coins. The king would not only lose the income from issuing currency, but – and this is what the outlaws were hoping – those who supported the boy king would be humiliated and toppled and they themselves would be back in power. We know that the outlaws succeeded in establishing a mint for the production of counterfeit coins. This is mentioned in the Hindsavl agreement between the Danish and Norwegian kings in 1295. According to that document the Norwegian king could legally keep Hjelm, provided that he made sure the production of counterfeit coins was stopped.

The captured mint-masters were forced to take part in the counterfeiting on Hjelm. Before the investigations began, we anticipated that a central coin workshop lay east of Kastelsbakken. Several times during ploughing, coins, ingots and other objects had been found which pointed to the production of coins in that area. So it was surprising – and in the beginning incomprehensible - that, in all the ditches we dug in the area between the castles, we found coins and great quantities of pieces of copper for coin production. Metal detectors were used and layers of 5–10 cm at a time were excavated. In all, more than 2000 coins, blanks, ingots and pieces of scrap copper were found as well as melted copper and slag (Fig. 19). There were particularly large concentrations in three places. These were in the place known locally as the Mint (77 coins 467 blanks, and 80 ingots), a dip in the ground north of Kastelsbakken (106 coins, 253 blanks and 47 ingots) and close to the most north-west of Fyrbakken (7 coins, 23 blanks and 6 ingots). We think that we have uncovered the western part of an actual coin workshop, with wall ditches, postholes for posts where the lower die was situated, three partly buried barrels and a forge (Fig. 20). The ground plan is very similar to that excavated in the archbishop's mint in Trondheim. North of Kastelsbakken, the remains of a building that must have housed another coin workshop was found. Meanwhile, at "the Mint", no remains of buildings were found, having been ploughed under. There is no doubt that coin production had gone on in these places. The large quantities of copper found, represent all stages of manufacture – copper-waste, waste from castings, newly cast and hammered-out bars, cut-out blanks which were cold-hammered further to make round blanks, as well as finished coins. Bars had also been cut directly from copper pots and blanks made from
the excavations have shown - they built castles on the island's east and west sides. The three castles were part of a joint fortification of the island. But why fortify an island in the middle of enemy territory and moreover set up the production of counterfeit coins?

The two minor castles of Kastelsbakke and Skaadebakke near the coast were necessary for several reasons. First of all, the need to observe hostile ships and to control the passage of trading ships following one of the important trade routes was vital and it was impossible to see ships from Fyrbakken castle in the middle of the island.

Then there were military considerations. Dividing your forces is a well-known tactic that makes it possible to confuse the enemy and to attack from several places. And this fits well with the way war was practised at that time. The war between Denmark and Norway, of which the outlaws were part, was not a war in which the nations' full armies were engaged. It was more a feud than a war; the noblemen and their private armies fighting each other, taking prisoners, demanding ransom or simply confiscating property or dispatching the owners.

Conclusion

In 1290 the outlaws supported by the Norwegian king, landed on the unoccupied island of Hjelm. They fortified the centre of the island and in addition - as...
Die Retrospektive des Verteidigungssystems Trakai vom XIV.–XV. Jahrhundert

Die Stadt Trakai ist eine kleine Stadt auf einer schmalen Halbinsel, die von vier Seen umschlossen wird; sie ist vielleicht der am häufigsten von Touristen besuchte Ort in Litauen.


Den Außenteil bildeten die Erdhügel und die Verteidigungstürme.


Es ist möglich, vier Bauphasen der gemauerten Burg auf der Halbinsel zu unterscheiden:
- Phase 1 – der Anfang des Baus der Burg vom Garde - Typ mit einem großen Turm (15x15m) auf dem nördlichen Teil der Halbinsel.
- Phase 2 – die Umsetzung des Plans der vorderen Burg mit sieben Türmen und den Verteidigungsmauern dazwischen.
- Phase 3 – der Abschluss des Baus der vorderen Teil

Die Burg der, die Einfassung des Hügels „Opfer“ mit Verteidigungsmauern.
- Phase 4 – der Baubeginn auf dem Hügel „Opfer“, der vermutlich auch nicht abgeschlossen wurde.


Die Burg hat auf drei Inseln gebaut. Aufgrund der Ergebnisse von Forschungen kann man drei größere Bauphasen erkennen:
- Der Bau wurde auf der höchsten Insel angefangen, wo jetzt das zentrale Schloss steht; es wurde geplant, das Schloss U- förmig und mit einem Hof vor dem Schloss zu bauen; Die Forschungen haben gezeigt, dass diese Bauweise abgebrochen wurden;
- Während der zweiten Bauphasen hat man ein repräsentatives Schloss gebaut und einen Teil der Verteidigungsmauer, die das Schloss einfasst.
- Während der dritten Bauphasen hat man die Bauten vor der Burg gebaut, für den Bau der Türme hat man solche Stellen der Insel in der Nachbarschaft gewählt, die sich am besten eignet und am höchsten auftragen.