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Engelsborg – a fortified naval shipyard on Slotø in Nakskov Fjord

Engelsborg – eine befestigte Marinewerft auf Slotø im Nakskov Fjord

Auf der kleinen Insel Slotø im Nakskov Fjord liegen die Ruinen der befestigten Marinewerft Engelsborg, die 1509 von König Hans erbaut wurde. Obwohl sie nur kurze Zeit in Betrieb war, handelt es sich um eine einzigartige und ungewöhnlich gut erhaltene Anlage. Unter der Aufsicht des Nationalmuseums wurde die Werft im Zeitraum 1944–47 von einem Team von Gymnasiasten aus Dänemark, Norwegen und den Niederlanden mit Studienrat M. Andersen an der Spitze ausgegraben.

1985 waren die Ruinen in äußerst schlechtem Zustand und man begann mit der Instandsetzung des Mauerwerkes. Die Restaurierung von Engelsborg wurde 2005 abgeschlossen. Es handelt sich um das erste abgeschlossene Restaurierungsprojekt nach der Übertragung der Restaurierungsarbeiten an das Nationalmuseum. In diesem Zusammenhang führte das Nationalmuseum eine neue archäologische Untersuchung durch, die zahlreiche interessante neue Ergebnisse über das Zusammenspiel und die zeitliche Relation zwischen der Befestigung des Ortes und seiner Funktion als Schiffswerft ergab.

Die befestigte Marinewerft ist eine einzigartige Anlage aus dem dänischen Spätmittelalter und der Renaissance, die innerhalb weniger Jahre ab 1509 errichtet wurde. Sie besteht aus einem runden Verteidigungsturm, von dem aus zwei ebenfalls befestigte Flankenmauern in V-Form bis hinunter zum Fjord führen. Die neuen Ausgrabungen haben ergeben, dass man sofort mit dem Bau von Schiffen begann und an der Kaianlage zwei tief verankerte Holzkonstruktionen errichtete, so dass man die Schiffe kielholen, also für Reparaturen und Wartungsarbeiten auf die Seite legen konnte. Zwischen den Flankenmauern lagen die Hellingen und Werkstattgebäude sowie weitere zum Schiffbau erforderliche Anlagen. Die Werft war umgeben von zwei

Wallgräben mit einem dazwischenliegenden Wall. Außerhalb der befestigten Werft befanden sich die übrigen Gebäude von Engelsborg. Es stellte sich heraus, dass die Marinewerft zunächst nur ca. 20 Jahre lang in Betrieb war. Nach dem Angriff und der Einnahme von Engelsborg durch eine Hanseflotte im Jahre 1534 gab man den Schiffbau auf Slotø auf. Nach 1549 wurde Engelsborg nur von einem "ansässigen Bauern mit einigen Leuten" genutzt, bis König Christian IV. 1623 die Werft für zehn Jahre wieder in Betrieb nahm. In diesem Zeitraum entstanden unter der Leitung von Schiffsbaumeister Daniel Sinclair mehrere Kriegsschiffe, u.a. "Den norske løve" (Der norwegische Löwe), heute als Modell auf Schloss Rosenborg zu besichtigen. 1633 kam das Ende von Engelsborg als Schiffswerft, und die Gebäude wurden von Prinz Christian abgerissen, der das Baumaterial für seine Residenz Schloss Nykøbing wiederverwandte.

Seitdem ist Engelsborg eine Ruine. 1945 kam auch der Krieg wieder nach Slotø. Aufgrund der großen Wassertiefe um die Insel lagen drei Schiffe der dänischen Handelsgesellschaft Østasiatisk Kompagni (ØK) an der alten Schiffswerft vor Anker. Damals war Johan Henriksen, der all die Jahre als Restaurierungsmaurer auf Slotø arbeitete, noch ein kleiner Junge und wohnte unweit der Ruine. Um 19.00 Uhr am 3. Mai tauchten neun englische Mosquito-Jäger am Horizont auf und griffen die drei Schiffe an. Die Maschinengewehrkugeln trafen auch das Gehöft und verletzten Johan und seinen Bruder, die in Panik auf den Hof hinausgelaufen waren. Die Schiffe wurden zwar kampfuntauglich gemacht, eines erlebte jedoch später als "Hospitalsschiff Jutlandia" ein Comeback. Der 2. Weltkrieg war für Dänemark am 4. Mai um 20.40 Uhr zu Ende – 25 Stunden und 40 Minuten nach dem Angriff auf Slotø.

Engelsborg on Slotø: Shipyard, castle and administrative center

On the little island of Slotø in Nakskov fjord there lays a ruin, now completely restored. (Fig. 1). It is not the most visited place because one must either have a boat to get to the island or go on a tourist trip with the mail boat from Nakskov. But it is certainly worth the trip: it is not only the most extraordinarily well-preserved ruin by Danish standards, but also includes visible remains of completely free-standing outbuildings to which no parallel has yet been found in Europe.



Fig. 1. The ruins of the fortified shipyard Engelsborg photographed in the spring of 2006. The walls have been restored, with interruptions, from 1985 until 2005. The inner moat is well preserved, as is part of the surrounding rampart. The outer moat, on the other hand, has almost disappeared. The farm in the background lies where the commandant, soldiers, shipbuilders, and the other staff had their living quarters right from the start of Engelsborg's history. Photo: Jan Kofod Winther.

From the written source we now know that on 23 May 1508, King Hans ordered a jetty to be built at Ebelø in Nakskov Fjord so that it would be possible to "begin to build something there ... straight away in summer." Thus, in 1509, the building of that "something" began, which was in fact ships. According to the historian Arild Huitfeldt (1599), the first ships were the "Engelen" [The Angel] and the "Maria" (Fig. 2). Both are known from sources in later years. "Engelen" was hired out to the Duke of Geldern in the Netherlands and as the ship was one of the largest and safest in Europe, it sailed the Habsburg Crown Prince – later the German-Roman Emperor Charles – to Spain. The ship was kept in

Spain despite the Danish king's protests, and it became a central part of the Spanish fleet and never returned to Denmark again. "Maria" was described as the biggest ship in the Baltic and "rose up like a hen amongst her chicks." Christian II took it with him when he moved to the Netherlands in 1523. Later it was sold to a merchant from Genoa. There is no doubt that Engelsborg was a shipyard, but the special thing about it is that evidently at the same time it was the site of a castle. It is mentioned as such by Arild Huitfeldt (1599) and an inventory from 1523, in which different types of cannon have been listed, confirms his statement. And the island's name changes in the written sources to "Slotø" [Castle Island].

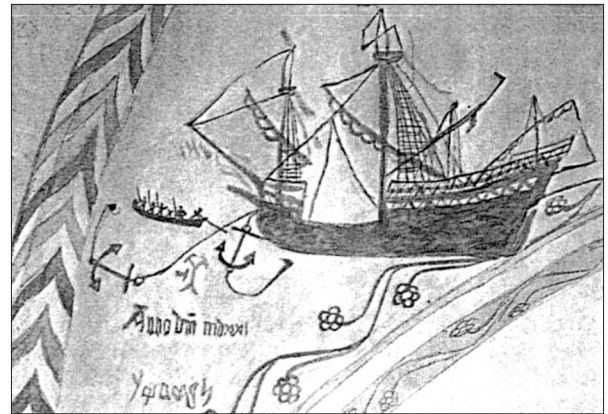


Fig. 2. "Such large ships have never before been seen in the Baltic," a Dutch envoy is noted as saying about "Engelen" [The Angel] and "Maria", the first two naval vessels probably built at the Engelsborg shipyard. The ship in the mural painting in Ebeltoft Church may have been painted with inspiration from one of the two ships. Photo: The National Museum.

In 1534, Engelsborg was attacked and conquered by the Hanseatic city Lübeck. We do not know what happened to the castle during the attack but it seems obvious that, as a result, the place finally stopped functioning as a shipyard.

Furthermore, Engelsborg has been an administrative centre. From 1510–1523, it was a royal fief for the districts of north and south Lolland. This emphasises the importance that the king was to be attached to the place. In 1511 and in subsequent years, the King stayed at Engelsborg. Several letters were written from here. Already in 1523 and until 1549, Engelsborg functioned only as a fief for four minor districts and a couple of islands.

Between 1549 and 1623, we hear very little about Engelsborg or Slotø, but then something happened again. Christian IV decided that once again ships should be built on Slotø and it was done: from then until 1633, ten large naval vessels were launched from Slotø. The last one is assumed to be "Northern Lion" (Fig. 3) (Hansen 1948a).



Fig. 3. In the Royal Danish Collections at Rosenborg there is a model of "Norske Løve", the last naval vessel to be launched from the shipyard on Slotø. The model was made in 1652–1654 in ivory and silver and is one of the world's costliest ship models. According to the accounts, 82 kg of ivory were used for the 95 cm long model. Photo: Rosenborg Castle.

In 1633, Slotø's land was leased out, and in 1635, permission was given for buildings to be removed, and on 1 July 1636, Christian gave permission for stones to be taken from the island, apparently to be used for building of Nykøbing Castle. Engelsborg must quickly have become a ruin and its former significance as a fortress, shipyard and once also as an administrative centre, had clearly declined, when in an ecclesiastical report from 1743 it was stated: "On the northern side of the island there lie the remains of a castle or tower about which the inhabitants can give no reliable information."

Research tradition

At the beginning of the 19th century, awareness spread of what we today call our cultural heritage. The Heritage Commission (Oldsagskommissionen) was established and a list was drawn up of the most significant monuments from the past, which were subsequently placed under preservation orders. The ruins on Slotø, however, were not included. The significance of the place was not even stored in the memory of learned circles either. When, in 1830, Professor Niels Laurits Høyen inspected the country's historical monuments, a visit was also paid to Slotø where he gave a short description of the ruin and its individual parts and was obliged to conclude that it was a "very notable ruin." Høyen was aware that the place might contain the shipyard of King Hans and later King Christian IV, but he was sceptical and thought that the ruin was "much older". In 1877, Magnus Petersen came

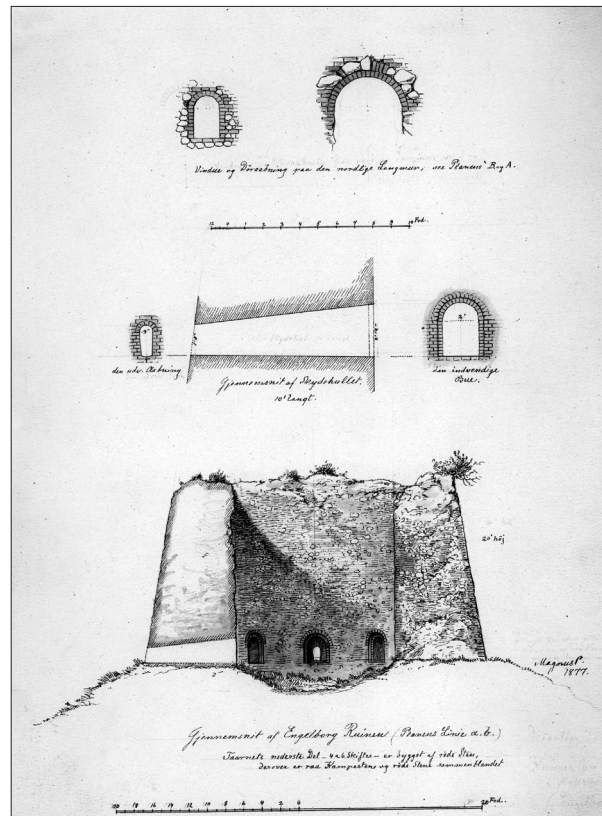


Fig. 4. During his inspection of the castle ruin on Slotø in 1877, Magnus Petersen sketched among other things this section through the tower and details of embrasures. Ill: The National Museum.

to the island and from his visit we get the first actual documentation of the site (Fig. 4).

In the 1890s, the island and the ruin were a favourite place for excursions. Among other things, the very popular annual regatta finished here and a large tent and tables were set up in the ruins so that food and drinks could be served after the last race. The festivities affected hard the ruin and in 1895 it was decided that it should be protected by a preservation order. A clause was included that if anyone examining the ruin found gold or silver, the value of the "treasure" was to go to the owner. The story was that there was a legend attached to the ruin that in the depths of the tower a devil dwelt – a guardian of gold treasure. Perhaps the legend was inspired by the fact that the Bishop of Odense, Jens Andersen Beldenak, in 1520, had been imprisoned in Engelesborg. After his release he claimed that whilst he was imprisoned he had been robbed of a great treasure of both money and other valuables.

In the first part of the 20th century, the island was inspected several times by, among others, Peter Hauberg from the National Museum who in 1904, as part of a nationwide inventory of moated sites, undertook a regular survey of ruins, which had moats or ditches (Fig. 5). In many cases there was a wish to undertake an archaeological

excavation but the museum could not raise the money, so other projects, more central from a national point of view, were carried forward. (Ericsson 1988).

The archaeological excavations 1944–1947

The opportunity to carry out an archaeological investigation arose during World War II (1940–1945) (Hansen 1948 a; b). During the war, there was a natural strengthening of the Danish national spirit. This meant that our ancient monuments became significant and an interest developed in cultivating things in a Danish way. This shines through from Marius Hansen's writings – he was a school-teacher who took the initiative over excavations: “When in 1940 the war locked us in and our young people were filled with reports of the contribution to “socially useful” areas made by the youth of countries involved in the war, the thought arose to occupy our (secondary-school) students with a socially useful task, which had nothing to do with the war and which otherwise would not be fulfilled” (Hansen 1948a).

The excavations took place in summer for four seasons and the workforce consisted of school students. In the first year, they came exclusively from the local Grammar school in Nakskov, but in the following year students from all over the country participated and in the ensuing two years they also came from Norway, Sweden and Holland. The excavations were carried out under the supervision of the National Museum, but it was Marius Hansen who was the real leader of the investigations. A considerable part of the excavation consisted in digging out the ruins from the piles of earth. It became clear that the tower and so-called flank walls were built together and thus had been part of one and the same construction. He stated that the round tower had a diameter of 12 metres – it is 10.9 metres now – and the walls were 3.5 metres thick (now 3.3 metres). There are nine canon-loops in the tower's lower storey. The tower room is 29 square metres, enough to enable people to move around when the rather modest cannons were to be fired. The canon-loops are very narrow on the outside (14 cm wide and 35–40 cm high) but strongly bevelled so that canons could be placed on a recoil beam fastened on the wall at the side of the opening. The loops are arranged in such a way that from here one cannot fire over the encircling rampart, but it was the attacking enemy one was supposed to hit, on his way down into the moat or over the ditch and most vulnerable. The further reaching defence was carried out from the floor above. A spiral staircase built into the wall led up there and Marius Hansen found faint traces of two canon-loops (Fig. 5).

“The two flank walls stretch from the tower down to the beach like the sides of a giant V.” It was, however,

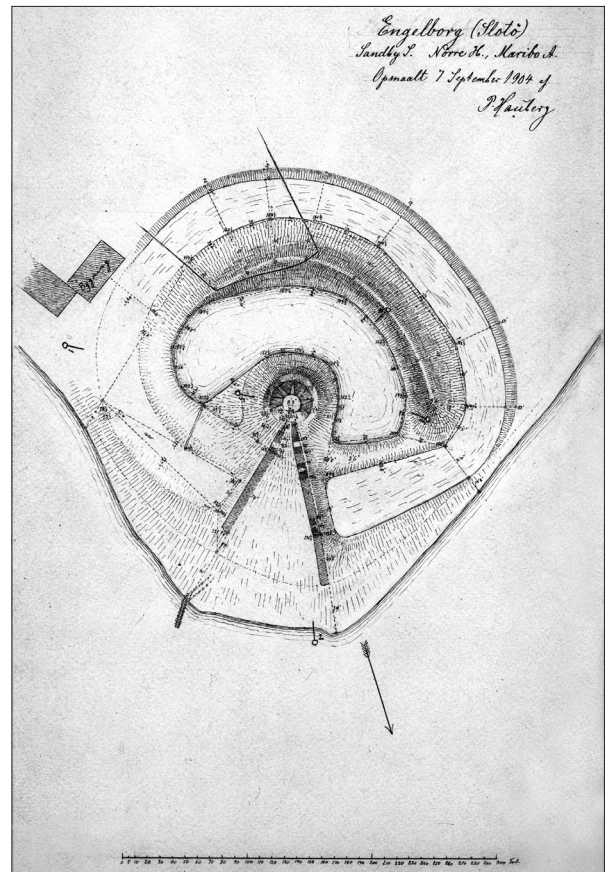


Fig. 5. In 1904, the ruins with the surrounding moat and rampart were surveyed. It is worth noting that at such a late point in time it was possible to see or glimpse the outer moat, which is today as good as gone. Ill: P. Hauberg, The National Museum.

established that nine metres from the interior of the tower there was an elbow in the walls that opened out more towards the beach. At this point there was a transverse wall with a doorway in it, apparently an anteroom before one entered the tower. Excavation results could not explain the function of this room, which has a canon-loop on either side. But the fact that the tower and the walls were built together convinced Marius Hansen that the whole had been constructed from a concerted plan and built in the years 1509–1510.

The western wall appeared to be the best preserved one of the two flank walls. A gateway opening reveals that the entrance to the castle and the shipyard was here and a cobbled road led from here over the moat to the west. Six canon-loops were discovered in the wall and it was estimated that there had been ten or perhaps more, all depending on how much longer the west wall had originally been.

A doorway was recorded in the eastern flank wall, approximately on one level with the gateway in the western wall. They omitted to uncover the full length of the eastern wall because it was so dilapidated that they did



Fig. 6.
After exposing the walls in summer 1944 archaeologists began in 1945 to excavate the shipyard in the area between the flanking walls. The photo was taken from the deck of one of the freighters that lay at anchor in the fairway off the ruins. Photo: M. Hansen, The National Museum.

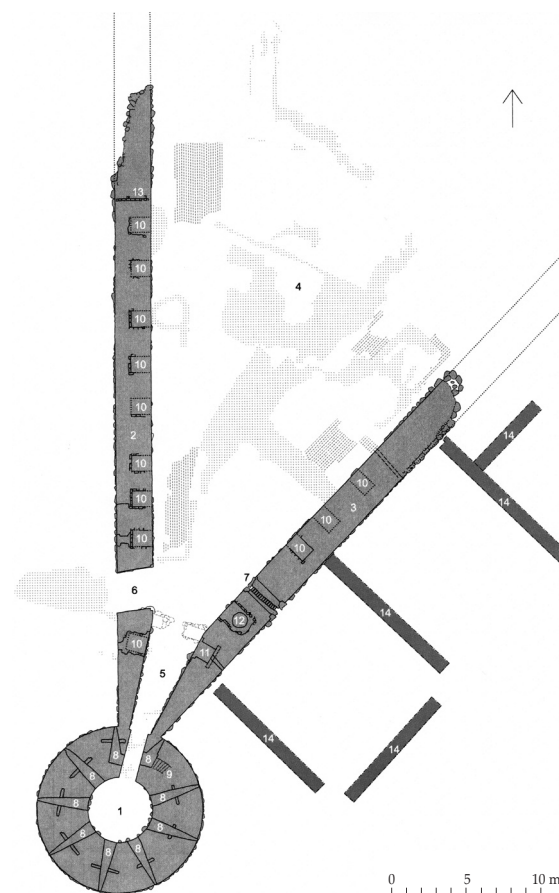


Fig. 7.
1. The main tower had at least two storeys and was probably crenellated (with open embrasures) on the top storey.
2. The western flanking wall, which was probably crenellated on the second storey. The wall probably stretched about 15 metres out into the water. 3. The eastern flanking wall presumably also had crenellation. The wall probably stretched out into the water, but only for a few metres, since at this point there is deep water in at the coast. 4. Marius Hansen's excavated foundations, brick floors and paving of the naval yard. After registration, the finds were covered up again.
5. The antechamber to the tower. 6. The gate was originally vaulted. 7. Doorway with sewage channel below. 8. Canon-loops on the first floor of the tower. 9. Staircase to the second storey. 10. Preserved traces of canon-loops in the flanking walls. 11. Partially reconstructed canon-loops. 12. Well. 13. Temporary termination of the wall. 14. Sondage trenches dug in 2005.
Ill: S. Brandt, N. Engberg, J. Frandsen, The National Museum.

not expect to get much information from an investigation of it, and moreover, Marius Hansen noticed that an intact covering of turf provided the best protection for the bricks. Two sewers or wastewater outlets were established in the wall, however.

Much of the excavation took place in the area between the two flank walls. A cobbled road was uncovered here,

foundations and floors in several buildings, and a tar cauldron among other things (Fig. 6). The many interesting remains of buildings connected to the shipyard will not be discussed here. We shall focus on the fortifications instead. A couple of observations are, however, important for understanding of Engelsborg's building history if we compare them with later excavations. While digging at

low tide along the beach between the two flank walls, when it was possible to dig deeper than usual, they found “many chippings of oak and other woods, lying on top of a layer of blue clay in which twigs and branches had been placed. In addition, many iron nails were found in this layer of clay... this must certainly be regarded as a kind of strengthening of the coastline.” We have rejected this explanation since. The other observation is of a strong wooden construction, which was partly uncovered on the outside of the western wall (Fig. 7). Strong horizontal beams, 30 cm high, lay up against the walls base at a level corresponding to about one metre under the normal water level. Two beams were laid on top of each other, and about two metres away – two parallel beams. The two rows were held together by tied beams with boards laid in between. “The beams actually formed a complete caisson.” The construction was filled up with flint stones, blue clay, and branches as well as larger stones. Marius Hansen interpreted the caisson as the foundation for a jetty. In the cold winter of 1946–1947, a beam similar to those in this construction was forced up by ice and consequently the assumption that the construction was part of a jetty was confirmed when it could be traced for about 15 m out from the beach with an iron prod. We shall return later to this construction and its function.

In a dry autumn in 1947, Marius Hansen and his school students also had the opportunity to examine the half-moon shaped moat that surrounds the tower from three sides. Deposits in the moat showed that it had never been connected to the sea, thus, the two embankments leading from the castle site to dry land on the west and east side, respectively, had been there from the start. It was also established that the moat had originally gone right up to the tower. The berm, which today lies around the tower, was perceived as material that had fallen down and had filled up the innermost part of the moat. A ditch cut through the high dyke that encircles the moat showed that it was built in one go and was part of the defences from the beginning.

Archaeological excavations after Marius Hansen (Engberg and Frandsen 2006)

On 6 September 1985, a gale blew up from the southwest and the water level in the fjord fell 3/4 of a metre. New restoration work had already started on the ruins so people were at hand, and, with half the seabed revealed, there was, for several hours, an opportunity to examine the west wall or a jetty's original extent.

As mentioned, Marius Hansen had done the same and had found a possible end about 15 metres from the beach. Now ten metres from the coast an exploratory trench was dug across the line of the wall. In the wall itself there lay a massive three-metre wide layer of stones,



Fig. 8. On the outer side of the western flanking wall Marius Hansen found a timber structure “situated about one metre below the mean sea level.” The structure with its large oak beams was the first trace of the western careening place. Photo: M. Hansen, Lolland-Falsters Stiftsmuseum.

up to 1/2 metre in size. Westwards and in line with the wooden construction found on the shore, there lay four heavy and wide oak planks ending on the western end with a piece of a square wooden construction like the one used for the “caisson” on the shore (Fig. 8). It was held in place by a 0.6 metre wide layer of stones. Six metres further out another wooden construction was found, this time with both sides intact. On the other hand, there was no further trace of the three-metre wide layer of stones. As previously supposed, it must end about 15 metres from the present coastline. So the west flank wall may have had a total length of about 66 metres, but it is uncertain, whether the wall was built right out or whether its course stopped further back and continued with a jetty. The wooden construction outside had functioned as a foundation for a careening place. Here the ships were careened, that is laid on their side for repairs or maintenance. It required a hefty pull to careen the big warships. The strong wooden construction anchored on the land allowed this to take place.

The year 2005 was the last year for restoration work this time round. The National Museum decided that there was a suitable opportunity to find answers to some archaeological questions, which had not been cleared up before. One of these was to find traces of buildings which, according to Resens Prospect of the 1680s, should have been situated east of the castle (Fig. 9): the other one was to determine whether there was a wooden construction outside of the eastern wall, similar to that outside the western wall: and finally, whether we could attribute a more detailed dating to the ruin and its surroundings, seeing that that it had a history of about 125 years.

In total, five exploratory trenches were dug east of the east wall (Fig. 10). Three of them were set at right-angles to the wall as it is here that a large building can be seen

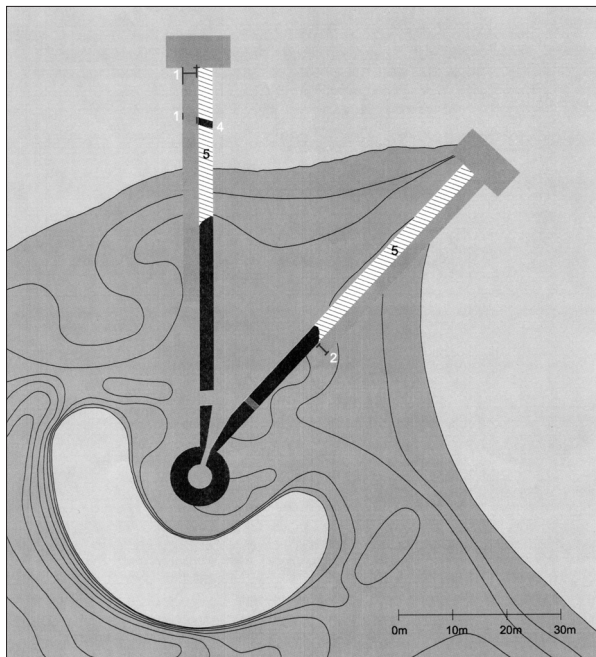


Fig. 9. Plan of Engelsborg indicating the full length of the flanking walls and the careening place. 1. Red shows the wooden structures from the western careening place, which was investigated in 1985. The location of the timber structure that Marius Hansen found in 1946 is not indicated because of uncertainty about the exact spot. 2. Wooden structure belonging to the eastern flanking wall, excavated in 2005. 3. The extent of the western careening place was established by excavation. The eastern careening place is sketched in as a mirror-image copy of the western one. 4. The foundations of the wall, excavated in 1985. 5. The length of the western flanking wall was established by excavations in 1946 and 1985. The length of the eastern flanking wall is sketched in as a copy of this. Ill: S. Brandt, N. Engberg, J. Frandsen, *The National Museum*.

on Resen's Prospect and the foundation or traces of such a building should be visible in the trenches. There were, however, no traces of the foundation to be seen here. So it is certain that there was no large thick-walled building here, as was the impression from Resen's Prospect. On the other hand, we found that a thick layer of debris consisting of fragments of tile and boulders bearing traces of mortar had been placed in the area outside the wall. This area was obviously made ready for building, which can only have happened when the place was again to function as a shipyard in 1623. We can imagine that, at that time, both the tower and the flank walls had been left in a state of disrepair, apparently since 1549, when Engelsborg was no longer a castle for a king's bailiff. The upper section of the walls may very easily have fallen down by themselves, though it is not so conclusive here, since, evidently, it must have been decided to demolish the upper part of the walls – so this is the core of the walls

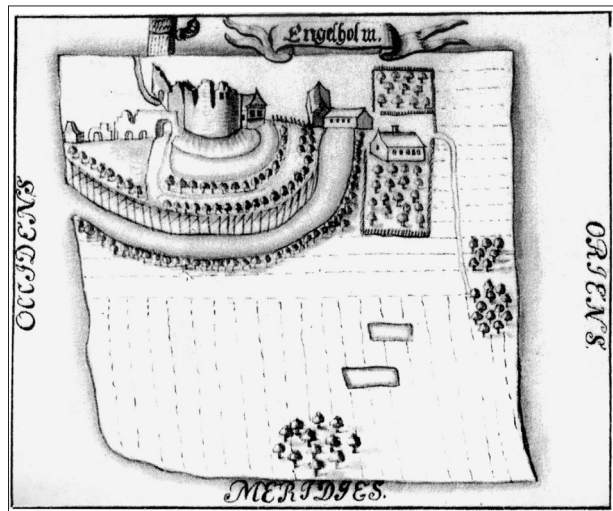


Fig. 10. Engelsborg ("Engelholm") c. 1680. Perspective drawing from Resen's Atlas. Note the building which looks as though it lies close up against the eastern side of the castle complex. The excavation in 2005 showed that it could not have been a brick building; it was probably all-wooden houses or half-timbered buildings for use in shipbuilding in 1623–1634.

which has been used as an infilling so that more space could be created for the shipyard. This fits in well with the sources' statement about the construction of buildings to house the workers and workshops for, in all, 43 trades. Lightweight wooden constructions could certainly have stood on the infill east of the flank wall, without our being able to see traces of them anymore. Since the time of the shipyard the area has been cultivated, which readily has removed traces of clay floors and so on. In the light of our new knowledge about infilling in the time of Christian IV it is obvious that the berm around the tower and the moat in its present smaller form was also made at that time. There could have been a very practical reason for this, namely, to provide an easily accessible link between the shipyard areas east and west of the tower. There is now a clear picture that the shipyard of Christian IV unlike that of King Hans was not fortified. Engelsborg, as a castle site, existed no longer.

In the two trial ditches, namely, 5 and 16 metres from the tower, there was no trace of a wooden construction. On the other hand, there was some in the area 27 metres away. Exactly the same type of construction that was found on the west side came to light in the trench just over a metre under the turf. On each side, two metres apart, lay two large beams (25–30 cm high and 20 cm wide) one on top of the other. Two crossbeams tied the construction together and between the beams lay two planks (Fig. 11). The construction was covered in a greasy mud-like layer filled with hewn branches, wood chippings, some tiles, animal bones and a few pieces of pottery. Unlike the other side where Marius Hansen examined it, the construction