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Medieval Oslo: A Case for the Defence

Michael Derrick

In 1993 Erik Schia uncovered the remains of a large ditch (Schia 1993). This was the start of an investigation which would culminate in the discovery of the fragmented remains of a moat, 25 meters east of Kongsgården's walls (Derrick 2018; Hegdal 2021). This suggested that the defensive landscape around Kongsgården (the royal manor house) was likely to have been much more complex than previously thought. In this article I will attempt to reconnect Kongsgården with the medieval town based upon the discovery of the moat. I will present and discuss the fragmented remains and explore the theory that it was indeed part of a larger system of defences around Kongsgården. I will show that it is possible to detect the original footprint of the moat by reassessing earlier archaeological evidence and combining this with the new evidence found by NIKU, Norwegian Institute for Cultural Heritage Research. I intend to show that the moat was part of a final phase of defensive rebuilding around Kongsgården in the mid-thirteenth century and that it was abandoned in the late thirteenth-century as the defences of Oslo were shifted from Kongsgården to Akershus, the king's newly constructed fortress. By comparing Kongsgården's defences with other Norwegian parallels I hope to show that Oslo's defences followed a blueprint already in place in other towns and that geography dictated how these defences were constructed. In addition, I will show that there was a shift in land use after the moat's abandonment sometime during the early to mid-fourteenth century.

Archaeological evidence and an earlier hypothesis

In 1951 Gerhard Fischer published *Norske Kongeborger* ['Norwegian Royal Castles'] volume 1, the definitive book on Norwegian defences and castles. In the book's introduction he acknowledged that the biggest problem when writing about the subject was the lack of information around these enclaves. This is certainly true of Kongsgården in Oslo, one of the residences of the Norwegian kings from the eleventh to the fourteenth century.

Our understanding of Kongsgården derives from the ruins uncovered in the nineteenth and twentieth centuries. These excavations provided valuable information about the organisation and day to day life within the walls. However, they told us

very little about Kongsgården's place within the medieval town. Indeed, Kongsgården together with St. Mary's church (Mariakirken) appeared to lie separate and disconnected from the rest of the town, surrounded by seemingly empty land.

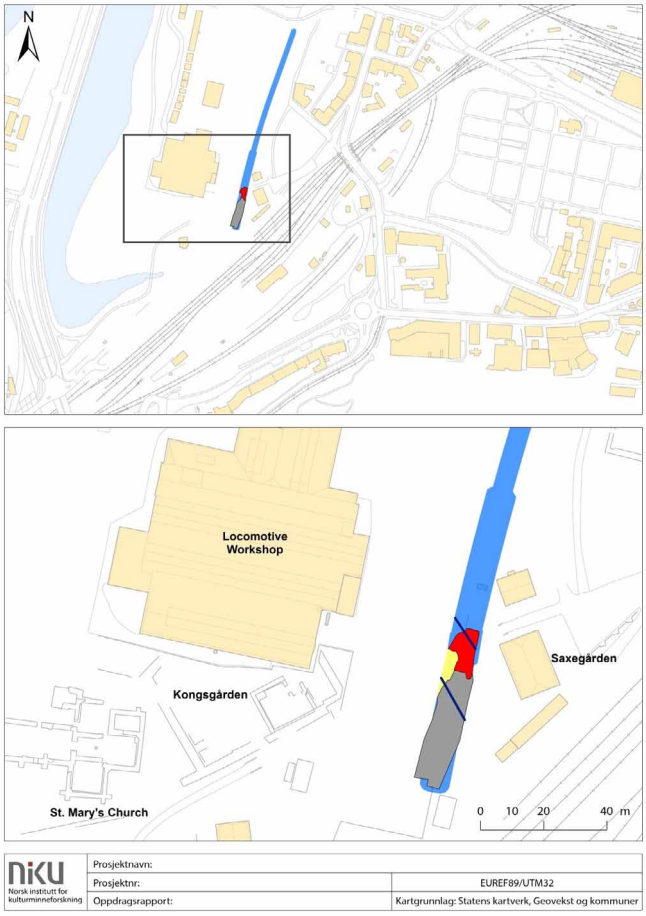


Figure 1. The location of Schia's excavation from 1993 (yellow), together with the areas excavated in 2014–15 (grey) and 2016 (red) as part of the Follo Line, Klypen east excavation (blue). The black lines represent the northern and southern edges of the moat located in these areas. Map: Michael Derrick NIKU. Background map: Statens kartverk, Geovekst og kommuner EUREF89/UTM32.

Our understanding of Kongsgården is largely based upon the combined drawings of Meyer and Blix from their nineteenth- and early twentieth-century excavations. These excavations placed Kongsgården on the Øra peninsula flanked by Oslo fjord on its western side and the Alna river along its south-eastern extent. Kongsgården contained a hall, economic and military buildings and living quarters and lay alongside St. Mary's Church, a wooden church later rebuilt in stone (Christie 1966).

Later excavations (unpublished) by Oluf Olsen in 1961–63 revealed the remains of a ring ditch which he concluded would have measured 40 meters in diameter. The backfill of the ring-ditch contained a cache of foreign coins, the latest of which was dated to 1048/1050 (Skaare 1966: 214). Molaug suggested that the coins could relate to Harald Hardråde's coin reform which stipulated that all foreign coins had to be exchanged for Norwegian currency (Brendalsmo and Molaug 2014: 178). This implied that the ditch was backfilled around 1050 with the exact date of establishment unknown. This date corresponds well with Erik Schia's interpretation of the circular ditch as being part of a motte-and bailey structure (Schia 1991: 112–113).

Olsen's ditch is important not only because it represents the earliest defensive structure found in Oslo, but because it is one of the few pieces of evidence that we have for the presence of earthbound features connected to Kongsgården. This discovery encouraged the idea that there could exist similar earthbound features surviving in the landscape.

In 1993 Erik Schia unearthed the western edge of a large ditch (Figure 2 p. 8). The ditch lay 25 meters to the east of Kongsgården's northern façade, close to Saxegården, an eighteenth-century building built on the remains of a fourteenth-century stone cellar. Although only a small area was uncovered, it quickly became apparent that the scale of the ditch was massive and that a structure of this size would have been a large engineering project (Schia 1993: 2). The edge of the ditch was aligned north-west/south-east and sloped down towards the east. Stratigraphic evidence together with a tile fragment recovered from a posthole within the ditch implied that it was abandoned sometime in the thirteenth-century (Schia 1993: 2). Schia tentatively suggested that the ditch could be part of a moat around the medieval stronghold of Kongsgården. He did add, however, that further archaeological work would have to be carried out in the immediate area to support this hypothesis.

Schia's idea for a moat was influenced by a hypothesis put forward by Christie in 1966. He suggested that the Øra peninsula, upon which Kongsgården was built, could have been separated from the rest of town by the construction of an earthen rampart. The mound would have protected Kongsgården's vulnerable north-facing side from attack (Figure 3 p. 9). This idea was based upon St. Olav's voll in Sarpsborg

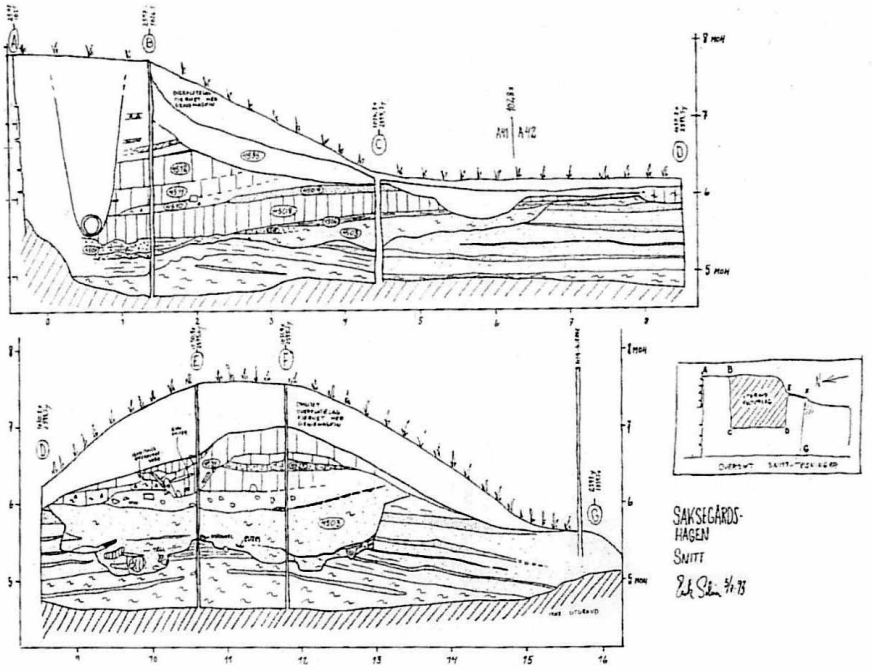


Figure 2. Schia's (1993) sections. This drawing shows a series of sections cut through the ditch in different directions. The section B-C shows the western edge of the ditch falling from west to east.

– a medieval earthen rampart and moat constructed in 1016 which cut off the defended peninsula (Figure 4 p. 10).

New archaeological evidence – the arrival of the moat

In 2014, Schia's hypothesis was put to the test when areas immediately adjacent to his earlier excavation came under scrutiny as part of the Follo line project. The area was excavated in two stages, firstly in 2014–15 (Derrick 2018) and later in 2016 (Hegdal 2021). The two excavations uncovered the fragmented remains of a 20-meter-long section of moat (Figure 5 p. 11 and Figure 6 p. 12).

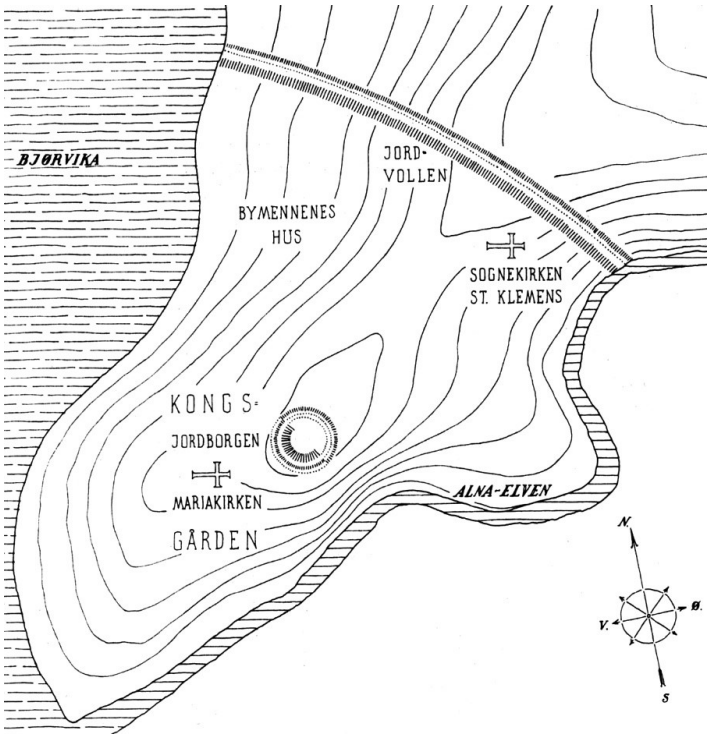


Figure 3. Christie's proposal for an earthen rampart cutting off the Øra peninsula. The rampart would have protected Kongsgården's northern walls. Christie placed the mound just north of St. Clement's Church. (Christie 1966)

In order to understand the structure, it was essential to incorporate the original section drawings from both the 2014 and 2016 excavations. These were georeferenced and combined to create a cross-section, showing the moat in entirety (Figure 7 p. 13). The section from the 2014 excavation was cut perpendicular to the already discovered ditch and provided an undistorted cross-section through the structure. The 2016 section on the other hand was cut at an oblique angle to the moat which slightly distorted the view of the ditch. Nevertheless, when combined the cross-section revealed an almost symmetrical structure with sides that sloped down at a shallow angle of 30 degrees before falling sharply towards the centre of the moat at an angle of approximately 45 degrees.

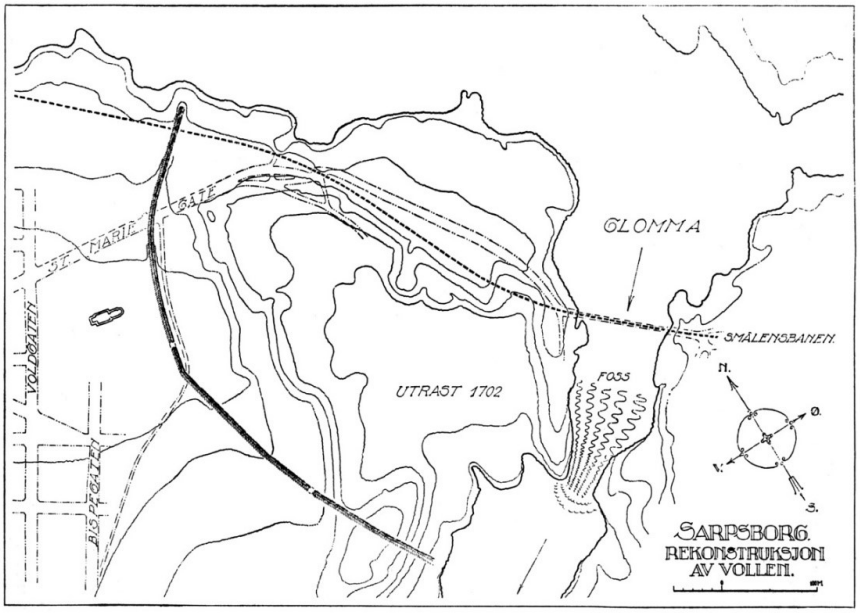


Figure 4. St. Olav Voll, Sarpsborg, constructed by Olav Haraldsson (later St. Olav) in 1016. It comprised a 650-meter-long mound and moat which spanned the mainland before ending at the Glomma River. The mound is believed to have been 2 meters high and the moat around 5.5 meters deep. It is believed to have been strengthened using palisades. Illustration: Fischer 1951.)

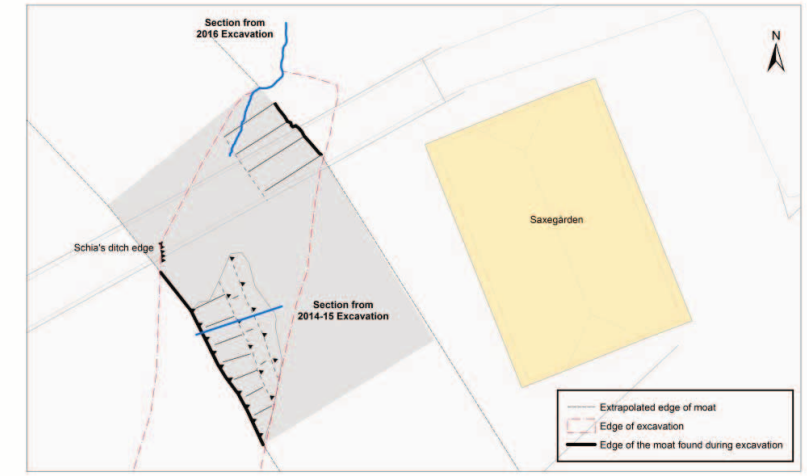
While accepting the presence of the large linear cut structure, Hegdal (2021) has argued for an alternative interpretation for the fragmented remains found in 2016. He asserts that the digging of pits and ditches in the area could have combined to create the structure interpreted as the moat. However, while pitting and secondary ditch digging were present in both excavations, there still remains the existence of a larger structure which the profiles show, stretching uninterrupted from north to south. The smaller ditches and cuts found in 2014 and 2016 are likely related to the moat and probably represent episodes of recutting together with later pitting.

The excavated moat was 13 meters wide and 1.83–2.00 meters deep. The true dimensions however are likely to have been much greater as the original medieval ground surface appears to have been greatly reduced. It is evident for example that

Figure 5. The top fills of the moat prior to excavation with archaeologists Erlend Nordlie (left) and Reidar Meyer (right). The 1 meter ranging rods in the centre off the photograph are positioned along the middle of the moat. The edge of the excavation area furthest to the left comprises a 1.60-meter-thick layer of soil which was laid down during landscaping of the area around 1799. Facing south-east. Photo: Michael Derrick NIKU.

part of the moat excavated in 2016 had been truncated by medieval pitting (Hegdal 2021). Pitting alone however, cannot solely account for the shallow depth of the moat. It appears instead, that more recent events have reduced the depth of the structure. During the initial archaeological investigations in 2014 and 2016 it became apparent that the area around Saxegården had been levelled and a thick layer of soil had been lain down to create a garden (Figure 5). Pottery and other datable items recovered from the soil confirmed that this activity was likely to have taken place during the rebuilding of Saxegården in 1799. The extent to which the area was levelled is apparent from the condition of a fourteenth-century stone cellar (SA10) uncovered immediately below the garden soil layer, which had been reduced to a single course of stone (Figure 8 p. 14). The walls of the cellar lay in a construction cut, the base of which survived. This cut would originally have been dug from a higher level, implying that the original medieval ground level was also higher.

Above. Figure 6. Archaeologists Are S. Kolberg and Erlend Nordlie excavating the moat layer by layer. Facing south. Photo: Michael Derrick NIKU.



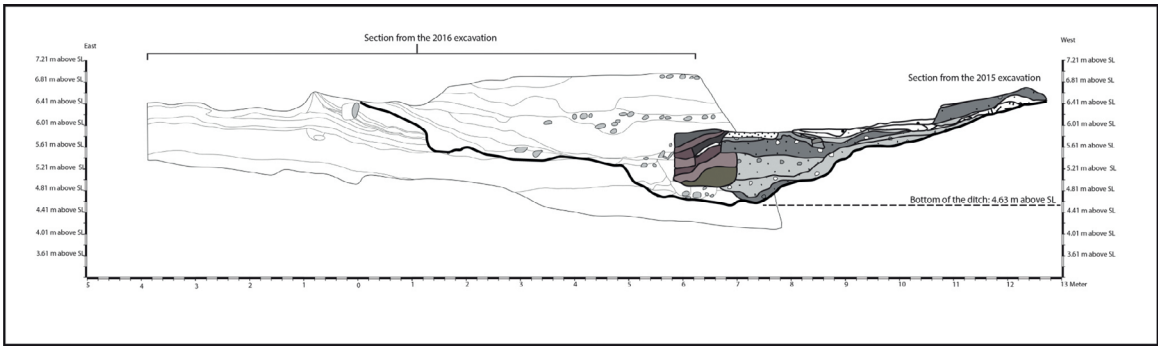


Figure 7. Previous page bottom: An east-west section through part of the moat excavated in 2015. Facing south. Photo: Michael Derrick NIKU. Top: The excavated moat in plan showing the location of the section drawings. Bottom: Combined Section drawings from the 2015 and 2016 which show a complete profile through the moat. The section drawing on the left (C3513) was excavated in 2016 and the section to the right (C13881) was dug in 2015. The thick black line represents the edge of the moat (Interpretation by Derrick). There are some variations in the layers between the two excavated sections. This is due not only to the distortion created when using an oblique profile but also because the sections lie 16 meters apart and include other locally backfilled layers. Section drawings: Tone Bergland and Michael Derrick NIKU.

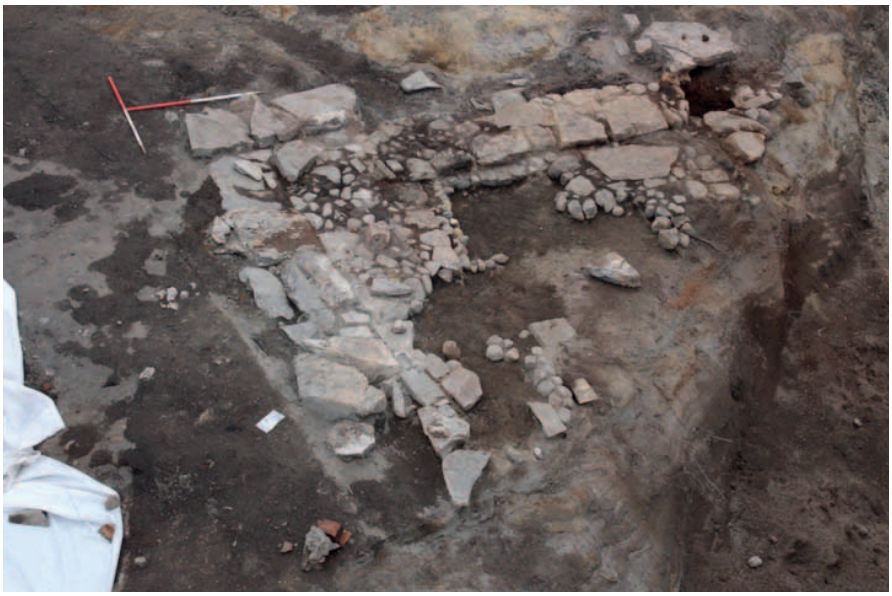


Figure 8. Stone cellar SA10 was reduced to a single course of stones and cobbled floor due to eighteenth-century levelling. The building was dated to the fourteenth century using stratigraphic relationships and ceramic dating. The building lay slightly over the edge of the moat. Facing south-east. Photo: Erlend Nordlie, NIKU.

Medieval ground surface and relative depth and width

In order to calculate the original depth of the moat it is necessary to ascertain the original medieval ground level at the time of the moat's construction and use. This can be achieved by examining the heights of nearby archaeological features dating to the twelfth– fourteenth centuries which lay untouched by eighteenth-century destruction.

Figure 9 shows the moat in plan together with a selection of archaeological features which lay outside the area destroyed by eighteenth-century landscaping. To the east of the moat lay a series of support timbers from a plank street, dating to the twelfth–early thirteenth century which lay at a height of 8.81 MASL. The timbers reflect a slightly lower level under the actual street surface which is likely to have been 15–20 cm higher based on information from other streets unearthed during the Follo line project (Berge et al. forthcoming 2022). The floor of a building dating to

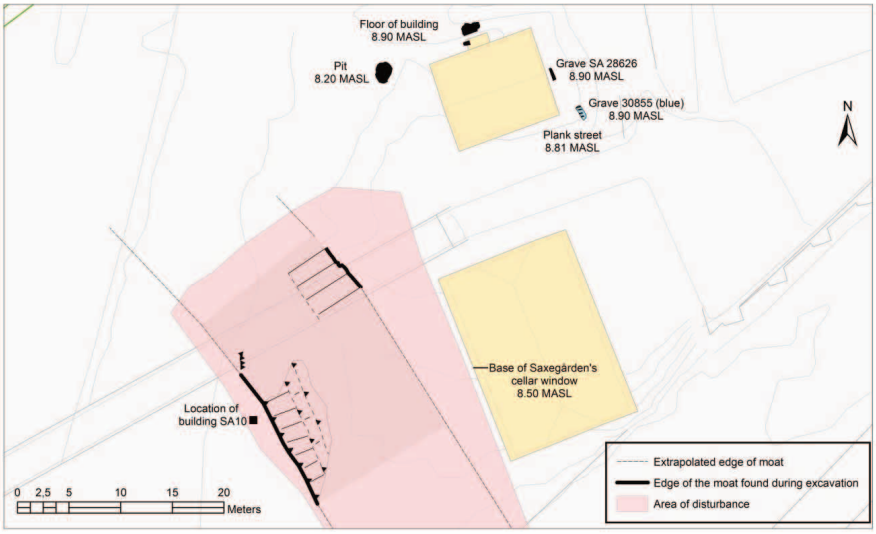


Figure 9. Five archaeological features unearthed during excavations close to Saxegården as part of the Follo line project. The depths shown are likely to reflect the land surface during the twelfth-fourteenth centuries. Drawing: Michael Derrick NIKU. Background map: Statens kartverk, Geovekst og kommuner EUREF89/UTM32.

the mid-twelfth to early thirteenth century lay at a height of 8.90 MASL, suggesting a gentle fall from the north end of the planked street towards the south. Immediately west of the building lay a thirteenth century pit at a height of 8.20 MASL. The pit is likely to have been truncated; however, the 70 cm fall does reflect a known drop in the landscape towards the west.

Twenty-five meters to the north-east of the moat lay two graves (SA28626 and SA30855[1]) belonging to St. Nicholas' graveyard. Both graves lay at a height of 8.90 MASL and were dated to the thirteenth and fourteenth century respectively. These graves are likely to have been cut from a higher level, perhaps around 20 cm higher as indicated by the depth of the best-preserved grave in St. Nicholas' graveyard (Derrick, 2018: 13).

[1] Graves SA28626 and SA30855 were dated to AD 1245–1280 (1-sigma (64,8%), Ua-52784) and 1290–1410 (2 Sigma, Ua-52793) respectively.

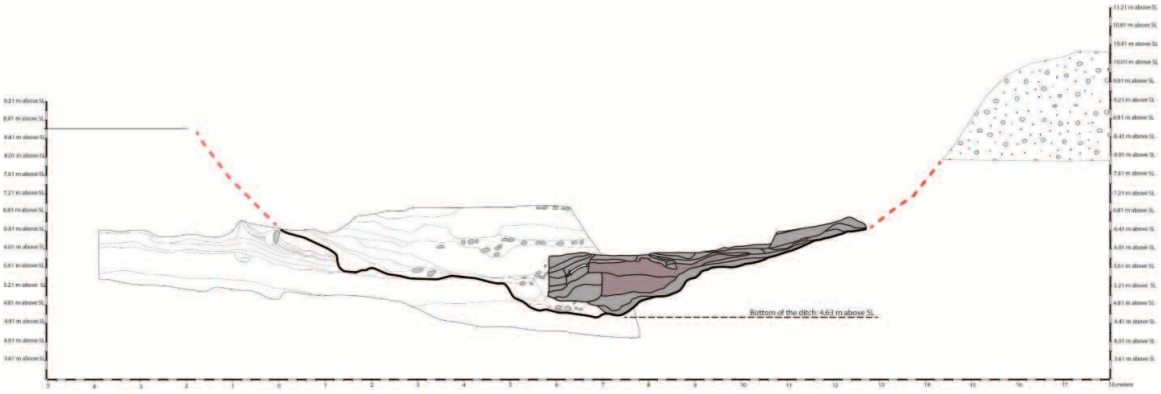


Figure 10. A reconstructed section through the moat as it could have looked in the thirteenth century. The red dashed lines represent the edge of the ditch extrapolated to the thirteenth–fourteenth century ground level. The earthen rampart on the right-hand side of the drawing is partly based on the St. Olav's voll in Sarpsborg which was 2 meters high. An extra 70 cm has been added to the rampart in order to compensate for the drop in terrain. There is also the possibility to build a much higher rampart with palisades. Drawing: Michael Derrick NIKU.

Finally, the base of windows on the western side of the stone cellar under Saxegården lies at an approximate height of 8.50 MASL. The exact date of the construction of Saxegården is unknown, however it is mentioned in the written sources from 1334–1414 and is assumed to date to the fourteenth cenury. If we assume the cellar window was located just above ground-level, then it is probable that the original fourteenth-century level on the eastern side of the moat could have lay at around 8.50 MASL.

Taking into account undulations in the terrain and some truncation to the archaeological features then it is at least possible to say that the medieval ground level remained constant during the twelfth–fourteenth centuries and that it dropped towards west. This implies that the moat is likely to have been cut from an approximate level of at least 8.30-8.50 MASL on its eastern side.

The original height of the western side of the moat is slightly more difficult to ascertain as the only archaeological structure surviving in this area is stone building SA10 (Figure 8). As mentioned earlier, the remains of a construction cut indicated that the building lay partially underground. The building had an entrance on its east-

ern side. The level of the doorway lay at a height of 6.78 MASL and there were indications of a stairway. A similar stone building was found by archaeologist Cato Enger in the 1950's and later by Edman during the follo line excavations (forthcoming 2022). The stairway from this building was c. 1 meter higher than the floor within the building. If we add one meter to the entrance of the half-cellared building it becomes apparent that the ground surface on the western side of the ditch could have lay at around 7.78 MASL – c. 70 cm lower than the eastern side. This fall in height from east to west likely reflects the natural fall in terrain towards Kongsgården. The lower level on the eastern side of the ditch could easily have been compensated with the construction of a high mound.

The true depth of the moat, based on the height from the eastern side, is likely to be between 3.67 and 3.87 meters, based on a depth of 4.63 MASL from the base of the construction. An increase in depth would also imply a corresponding increase in the width of the moat. The possibility of a 3-4-meter-deep moat with a width of 15 meters is not unthinkable. Add to this an earthen rampart and palisades and the defences around Kongsgården begin to look very formidable (Figure 10).

Where has the rest of the moat gone?

One of the problems with discussing the moat is that only a small 22-meter stretch of it survives. The reason for its survival is entirely down to its close proximity to Saxegården, which originally lay protected on an isthmus of land flanked on its southern side by the Alna river (Figure 11 p. 18). The coming of the railway obliterated the land surrounding Saxegården leaving the building (and part of the moat) stranded between two railway lines (Figure 12 p. 19). The moat fragment is the only evidence we have for any structures which could relate to defensive activity outside the walls of Kongsgården. In order to locate the rest of the moat it is important to understand its connection to Kongsgården and the events that have occurred since its abandonment.

The moat lay 28 meters to the north-east of Kongsgården. It appears to turn in a southerly direction towards the river and west towards Oslo fjord. Unfortunately, archaeological evidence for the continuation of the moat or the presence of any other defensive features around the external perimeter of Kongsgården is non-existent. This is curious, as a castle does not exist in isolation and the area around castles are always protected by natural topography or man-made ramparts, moats and/or palisades. This lack of archaeological evidence is likely due to a combination of factors which have led to the complete obliteration of all defensive structures around Kongsgården. This destruction is likely to have been initiated in the medieval period and completed in the nineteenth century with the coming of the railway.

Figure 11. Saxegården seen from the banks of the Alna river 1905. Facing north-east. Photographer: Unknown. Oslo Museum, byhistorisk samling.

Medieval destruction

The abandonment of Kongsgården as a defensive stronghold meant that any external defences would become obsolete. The moat was located on valuable land and is likely to have been backfilled in order to reuse the area. Micromorphological analysis of two thick layers found near the base of the moat (Figure 13 p. 20), confirmed that this indeed was the case and that the layers had been deliberately deposited (Macphail

Figure 12. Saxegården (centre) photographed 1910–20, as seen from the south. The building lies between two railway lines. The line at the bottom of the photograph was placed along the original footprint of the Alna river which was rerouted underground in 1905. Photographer: Unknown. Oslo Museum, byhistorisk samling.

2016: 7). Pottery recovered from the layer suggested that backfilling was likely to have occurred sometime in the late thirteenth–early fourteenth century. This coincided with the commencement of building Akershus fortress in the 1290 and its adoption as the king's residence by Håkon V in the early 1300's. This deliberate destruction would have greatly reduced the depth of the moat and completely obliterated any earthen ramparts and palisades which would likely have been used as backfill.

The arrival of the railway

Any remaining external defences which survived medieval destruction would have been completely destroyed by the development and expansion of the railway in the late nineteenth and early twentieth century. The transformation caused by the railway

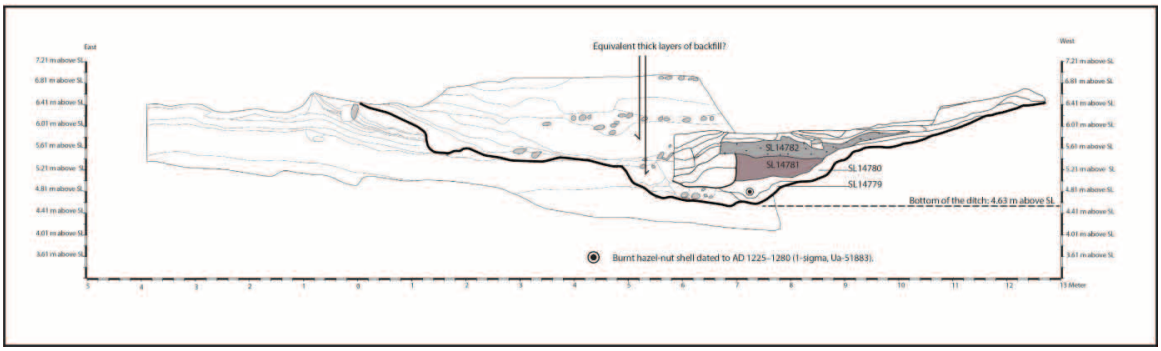


Figure 13. The combined sections from 2014–15 and 2016 excavations showing two thick layer SL14782 (grey) and SL14781 (brown) representing a period of deliberate backfilling. Only the layers found during the 2014–15 excavation were analysed and are discussed here. Thick layers are also discernible in the middle and bottom of the ditch section from 2016 and are likely to be the equivalent layers to those found in 2014–15. Illustration: Michael Derrick.

is evident when comparing the 1830 and 1901 maps of the area. These show the landscape changing from pastoral to industrial in the space of 70 years (Figure 14).

Fortunately, the destruction caused by the railways did not go completely unchecked. Architect Peter Andreas Blix together with engineer Fleischer and later architect Johan Meyer attempted to document the archaeological deposits and structures revealed during the construction of the railway in the nineteenth and twentieth centuries. They did not however, find any structures relating to the existence of external defence around Kongsgården. This is unsurprising as they were not tasked with looking for subtle earthbound features. The difficulty surrounding their work is best illustrated by an entry in Meyer's diary of 1892 where he writes that he is under instruction to investigate and draw all building remains and collect all 'loose objects'.[2] The most obvious structures such as wooden and stone buildings, wells, wooden trackways, and streets would have been investigated, while subtle structures such as ditches, postholes, pits, earth cut ovens and layers would have been ignored or unrecognised. In addition, Meyer and Blix' diaries reveal that they did not have the resources to carry out a thorough investigation. The result was an impressive collection of plan drawings and illustrations, showing a series of un-phased building re-

[2] Meyer's diaries from Riksantikvaren's archive.

Figure 14. Carl B. Roosen's map 'Christiania med nærmeste omgivelser' 1830 (left) and 'Kart over Kristiania af Byens Opmaalingsvæsen' 1901 (right). The impact of the railway is evident in the map from 1901 which shows the tracks cutting across the heart of the medieval town. Reproduced with the permission of Kartverket (Norges Geografiske Oppmåling).

mains. It is perhaps not surprising then, that excavation in the nineteenth and twentieth centuries failed to recognise or prioritise traces of subtle earthworks.

The difficulties encountered by these early archaeologists are perhaps best illustrated by events during the 2015 excavation (Derrick 2018). At the beginning of the excavation, a relatively small area was opened up revealing a series of layers. It took some time and weeks of painstaking excavation before these layers were interpreted as the fill of a large moat as opposed to a series of slowly accumulated medieval layers. Earlier archaeologist did not have the time, training, resources or technology to allow for interpretation of layers in this way.

Likely location of the moat

While there is no direct archaeological evidence for the continuation of the moat, there remains some compelling indirect evidence that could suggest its presence in the landscape. As mentioned above, the moat fragment appears to turn towards the west. If it continued in this direction it would pass Kongsgården's northern façade continuing towards Oslo fjord where it would terminate and join with the sea. The suggested path of the moat would cut through an area excavated by Meyer in the 1890's, prior to the building of a second locomotive workshop. Figure 15 shows the

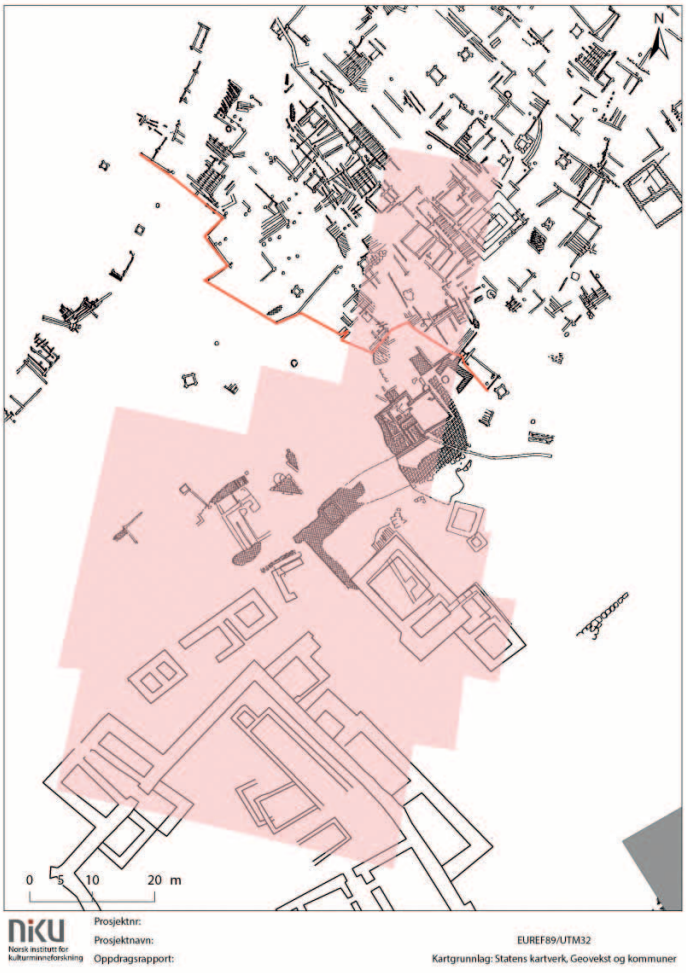


Figure 15. A map showing the area documented by Meyer before the construction of the new locomotive workshop (shaded pink). The northern part of his area is occupied by tightly packed wooden buildings representing settlement activity while the southern area close to Kongsgården is relatively free of such activity. The red line demarcates the edge of the main settlement. Illustration: Michael Derrick NIKU.

footprint of this part of his excavation together with the structures uncovered close to Kongsgården's northern façade. Towards the north of the excavation area, laid a series of tightly packed wooden buildings and passages, representing the southern extent of settlement activity within the town. The red line shown in Figure 15 defines this extent. It is apparent that building activity thins out towards the south and disappears completely to be replaced by a series of stone buildings and streets close to the Kongsgården's walls.

What is the reason for the lack of settlement in this area? One possible reason could be that the area was already occupied by external defensive structures such as earthen ramparts and an accompanying moat. Any defensive structures placed in this area would halt settlement expansion and could explain the distinct border created by the line of wooden buildings forming the town's southern extent.

Figure 16 shows the possible route for the moat suggested by the direction of the fragment found close to Saxegården. As expected, it runs parallel to Kongsgården's northern façade, through the 'empty' area and out towards Oslo fjord. The 'empty' area outside Kongsgården's walls measured c. 55 meters in width. This would have provided ample room for a moat and associated mounds and palisades. The walls themselves also provide a clue to the existence of a large linear structure in the area. The northern façade which lies just behind a series of later constructions (see Figure 16) appears to curve, possibly reflecting the path of the moat.

A connection to the sea?

If we are to assume that the moat occupied the empty area around Kongsgården then we must ask the question- where did it begin and end? As suggested above, it is likely that the moat continued towards Oslo fjord in the west and Alna river on its southern extent as indicated by the direction of the excavated part. This would agree with Christie's idea of a moat that effectively cuts off the peninsula from the rest of the town thus protecting Kongsgården from land attack from the north.

Macrobotanical evidence supports the theory that the moat was connected in some way to the sea. A sample taken from layer SL14780 which filled the base of the structure revealed that the silt is likely to have been deposited when the moat was inundated with water (Macphail 2016: 16). Furthermore, analysis of macrofossil samples from the base layers (SL14779 and SL14780 shown on Figure 13) indicated the presence of seagrass and moat grasses (Ruppiaceae, Ruppia) growing in the base of the structure (Moltsen 2016: 15). These plants only grow in salt or brackish water, suggesting not only that the moat was partially inundated with water, but that there was some contact with the sea itself.

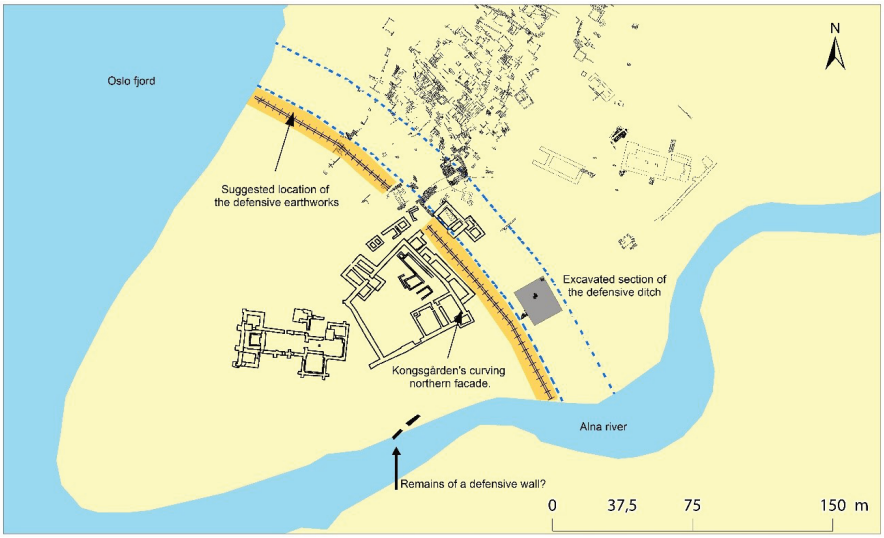


Figure 16. The possible route taken by the moat and associated rampart. The blue dashed line shows the possible path of the moat through the relatively empty area in front of Kongsgården. The width between the lines is broader than the excavated section of moat to reflect the probability that the moat was wider than the excavated remains suggest. A series of stone buildings occupy the area close to the northern and western walls of Kongsgården, while others were uncovered directly on top of the excavated moat section. Drawing Michael Derrick NIKU.

The base of the moat lay at a height of 4.50-4.63 MASL. The original thirteenth-century level however, would have been lower due to a combination of Isostatic uplift (~ 4 mm / year for the Oslo area) and sea-level change relating to a subsidence in the natural substrata caused by a fall in groundwater levels (Simpson et al. 2015). The estimated level for the base of the moat in 1250 would be c.1.44 MASL. Theoretically, this would mean that sea water could not have directly entered the moat as the sea-level was lower than the base. However, the presence of Ruppiaceae, Ruppia does suggest that sea water was present within the moat at some point. The most likely entry point for sea water would be the Alna River (Figure 16). Today the Alna River has been rerouted underground. However, in the medieval period it would have formed a barrier along the whole of the south-eastern part of the town, joining the fjord and protecting the Øra peninsula. The river would have been much wider and

more turbulent at this time. It is therefore not inconceivable that any tides higher than normal or seasonal flooding could have pushed seawater upriver causing salt and fresh water to mix and enter the moat. The presence of this brackish water in the base of the moat therefore supports the theory that it was connected to a nearby water inlet, probably the Alna River. Evidence for a connection to Oslo fjord is more difficult to prove as the excavated moat lies 180 meters from the shoreline. The connection to Alna does however suggest that the moat's main purpose was to cut off the Øra peninsula and one would assume the easiest way to do this was to extend the moat all the way to Oslo fjord.

The moat as part of the defensive system

Earlier parallels for similar defensive systems can be found in other medieval towns in Norway. Sarpsborg's early medieval fortress was like Oslo surrounded by water, affording natural protection from attack. The earthen ramparts straddled the peninsula, stretching from the river to the sea, cutting the fort off from attack by land. A moat in front of Kongsgården's northern façade would have provided similar protection.

Treborgen, the archbishop's fortress in Trondheim provides a later parallel. The wooden fortress was erected away from the main town by Archbishop Øystein Erlendsson in 1178-79 and was a strategic watchpost. It was protected by a moat and rampart topped with a palisade which straddled the peninsula connecting the river Nidelva and the fjord, protecting the town from an attack by land (Figure 17). *The Saga of Sverre* describes the defences which included a wooden palisade encircling the whole peninsula along its waterfront.[3] The work on Treborgen was completed the following year and the palisade stretched all the way around the peninsula following the river. The defences included a trebuchet and a tower or keep.[4]

Geography dictates that Kongsgården's external defences are likely to have followed a similar plan to that of Sarpsborg and Trondheim. The moat would have protected the landlocked side (see Figure 18) while the wide river and steep bank would have provided a natural defence on Kongsgården's southern side. This natural defence could have been strengthened by a series of earthen ramparts and palisades like those

[3] *Sverres saga* Ch. 27: «Treborgen ute ved Ilevollene, som erkebiskop Øystein hadde latt bygge, ble satt i god stand. Kong Sverre lot også sette opp et vern av pæler fra borgen og framover langs sjøen, men det ble ikke helt ferdig den sommeren».

[4] *Sverres saga* Ch. 74: «Våren etter lot kong Sverres bygge ut pæleverket så det gikk hele vegen langs sjøen, inn forbi gildeskålen og opp tvers over Ørene like til elva, og langs den videre til bryggene. På Brattøra ble det også satt opp ei valslynge, og oppe ved brua ble det bygd et kastell.»

Figure 17. A reconstruction drawing of Treborgen at Ilevollene in Trondheim built around 1178–79 by Archbishop Øystein Erlendsson. A moat together with a mound and palisades cut across the mainland connecting the river Nidelva and the fjord, protecting the town from attack. Illustration: Karl Fredrik Keller (2008).

constructed at Treborgen which would have proved formidable for any attacking force to overcome. It is possible that the remains of a wall running alongside the Alna river (see Figure 16) could have been part of such a defensive system.[5] If the seaward side was likewise protected, then Kongsgården would have been very difficult to attack from both land and sea.

[5] The walls first appear on a map drawn by Fischer in 1932 and are shown running along the edge of the Alna river.

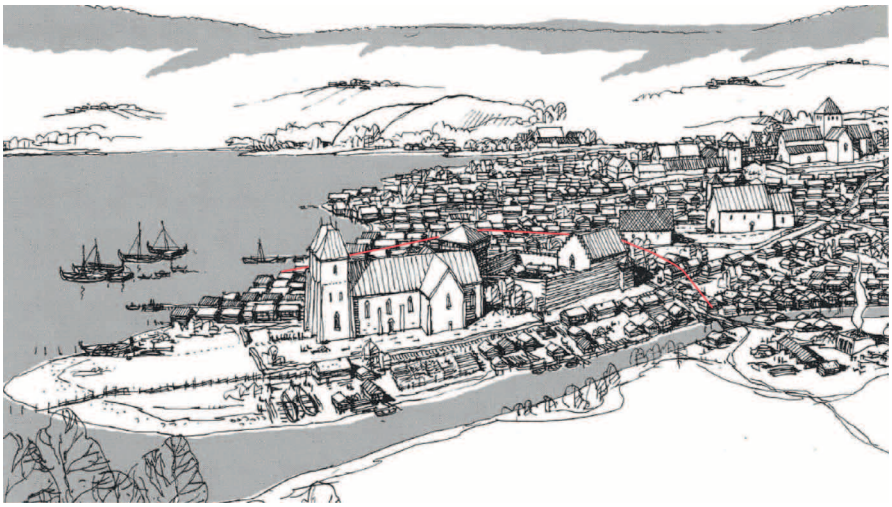


Figure 18. Brochmann's reconstruction of Oslo around 1300 with a red line added to show the approximate location of the moat. Kongsgården and St. Mary's Church lie close to each other on the Øra peninsula. The Alna river lies towards the bottom of the illustration. The banks of the river and the seaboard side are likely to have been reinforced with ramparts and palisades (Schia 1995).

The moat's chronology

Kongsgården and the sagas

In order to establish a timeline for the moat it is necessary to combine the archaeological evidence with written accounts contained within the sagas. While there is no mention of a moat or any defences around Kongsgården, there are other clues which point to improvements being made to the castle's defences. The most obvious change to a castle is the transitions from wood to stone. This would involve a total renovation and would be accompanied by other defensive constructions such as moats, ramparts and palisades. It is therefore important to determine when this change took place. Between 1130 and 1240 Norway was engaged in a series of bloody civil wars. It is not unreasonable to think that upgrading of defences would have been a priority in this period. The *Saga of Håkon Håkonson* (Ch. 100) tells us that in 1223, a fire destroyed much of Oslo including Kongsgården. It has been proposed by earlier historians that Kongsgården could have been rebuilt in stone after the fire. It is therefore

tempting to suggest that the excavated moat could have formed part of this new defensive system. However, another piece of evidence contained within the sagas appears to contradict this.

The *Saga of Håkon Håkonsson* refers to the battle between Håkon and the forces of Duke Skule and the faction 'vårbelgene' in 1240.[6] The passage describes the actions of the duke. Instead of remaining in Kongsgården, the army, together with the duke, retreated to St. Hallvard's Churchyard when told of an incoming attack. Schia (1993) believes that this piece of information shows that the defences around Kongsgården could not have been strong enough to withstand attack and that the walls around St. Hallvard's churchyard were the best defences in the town at this time. This also makes it highly unlikely that the moat would have been constructed and in use at this time. Gerhard Fischer (1950: 80) instead suggested that the castle and its defences were built after the second fire in 1254, an opinion supported by Brendalsmo and Molaug (2014). The *Saga of Håkon Håkonsson* (Ch. 333) gives credence to this claim: it tells of how King Håkon built within Kongsgården in Oslo. Molaug and Brendalsmo have suggested that Håkon would not have built within Kongsgården if it was constructed of timber, and that the stone defences are more likely to have been erected during Håkon Håkonsson's reign 1217–63. Nedkvitne and Norseng (2000) have argued, however, that the lack of any mention of masonry connected to Håkon's building activity suggests that like the defences at Nidaros, Kongsgården still remained a wooden construction after the 1254 fire. When Håkon built a defensive stone wall around Bergen in 1261 for example, there are references in the Saga of Håkon Håkonsson (Ch. 333) to the wall and buildings being constructed of stone.[7]

It is not until 1285 that a stone-built Kongsgården in Oslo is alluded to in a letter sent by Håkon Magnusson where he refers to Oslo's Hallkjell Krøkedans as 'castellanus' (commander of the castle).[8]. It is for these reasons that Nedkvitne and Norseng (2000) have suggested that the construction of Kongsgården in stone is more likely to have taken place during the reign of Magnus Lagabøte (1263–80).

[6] *Håkon Håkonssons saga*, Ch. 230: «Vårbelgene sov rundt på forskjellige steder, og da de hørte stormklokka, løp de snart her, snart der, men de fleste til kongsgården der hertugen sov. Og da det ble sagt ham at han kunne vente ufred, kledde han seg fort og væpnet seg og tok så opp etter stretet til Hallvardskirkegården […]».

[7] *Håkon Håkonssons saga*, Ch. 333: «to gode steinhaller og mange andre steinhus. Han lot gjøre en steinmur rundt Kongsgården og kastell over begge portene».

[8] DN V 15. Hallkjell Krøkedans was a member of the guardianship board for King Eirik Magnusson and was from 1286 *castellanus* (commander) at the royal castle in Oslo. During Alv Erlingsson's alleged attack on the town and castle in 1287, Hallkjell was captured, taken to Isegran (near present-day Fredrikstad) and executed.

It is apparent that the information contained within the sagas concerning Kongsgården is vague and can be interpreted in many different ways. The main function of the sagas was to promote the king. It is no surprise then that there is a lack of detail particularly around everyday life. It may be important to mention a castle or church, however structures such as moats and other defences are not always deemed significant enough to be written about. We therefore should not be surprised that it is the archaeological evidence we must turn to in order to identify and date these ignored structures.

Archaeological evidence: Establishment, use and abandonment

In 2015 the remains of a wood-lined well (SA7250) was unearthed which was cut by the moat (Derrick 2018: 118). Part of the wooden-well lining was radiocarbon dated to AD 1160–1215 (1-sigma, Ua-51866), implying that the moat was constructed after this timeframe. In 2016 a series of timbers, believed to be part of a street, were discovered lying on the eastern edge of the moat (Hegdal 2021). Hegdal has argued that dendrochronological dating shows that the timbers fell into the ditch sometime in the first half of the 13th-century when the ditch was cut (Hegdal 2021). It is more likely however, that they represent a later episode of backfilling or decay as the ditch is gradually abandoned.

A silt deposit (SL14780) found in the base of the moat displayed signs of drying out and decomposition, indicating that the moat may have been in the process of abandonment (Macphail 2016: 16). The layer was radiocarbon dated to AD 1225–80 (1-sigma, Ua-51883) with a most likely date of around 1260, suggesting that the moat was open at this time. This timeline shows that the moat was likely to have been established and in use sometime between 1220 and 1260. If we accept the information from the sagas which suggests that Kongsgården was not defensively sound around 1240 then it appears more likely that the moat was dug in Håkon Håkonsson's reign, possibly after the fire of 1254.

It is difficult to say exactly when the moat was abandoned. However, the radiocarbon date from the base of the moat indicates that it could have been in operation until at least 1260 and possibly as late as 1280. The pottery assemblage recovered from the backfill layers during the 2014 excavation provided a wide date range (1150-1350), narrowing the possible abandonment date down to between 1260 and 1350. The fill of a series of ditches that Hegdal believed represented recutting of a larger structure (which is interpreted here as the base of the moat) were dated to the period 1270-1290 (Hegdal 2021). This timescale corresponds well with the radiocarbon date obtained from the base of the moat in 2015 and is consistent with the gradual aban-

donment of Kongsgården as a defensive enclave and the construction of a new fortress at Akersneset in the 1290's.

Land reclamation and the construction of stone cellars

The abandonment and backfilling of the moat would have freed-up c. 9000 square meters of previously unavailable land around the northern and eastern side of Kongsgården. This new land could have provided much needed living space for the large proportion of the town's population, confined to an area between Bispeallmenningen in the north and Kongsgården in the south. However, there is very little archaeological evidence to suggest that the town expanded in this direction. It is possible that the king himself did not allow the townspeople to expand into this area. However, it is more likely external influences have dictated the town's expansion. The abandonment of the moat and the construction of Akershus fortress coincided with a period of economic slowdown in the early fourteenth century. This, together with the Black Death in the mid-fourteenth century, led to a period of stagnation (Helle et al. 2006: 81). Instead, the area appears to have been occupied by a series of stone buildings and roads (Figure 19).

There has been much debate around these stone buildings. Meyer, who unearthed the majority of them, dismissed them as post-medieval. He reasoned like many at the time, that the abandonment of religious buildings during the reformation period created a surplus of good quality building stone. This stone, he believed created a renaissance in the construction of stone buildings within the town during the sixteenth and seventeenth centuries.

This belief continued for over a century until new results from the Follo line excavations showed that many of the stone buildings around Bispeborgen (the bishop's castle) and Saxegården were in fact dated to the thirteenth, fourteenth and fifteenth centuries (Derrick 2018; Berge et al. forthcoming 2022; Derrick et al. forthcoming 2023; Edman et al. forthcoming 2022). Indeed, two of the stone buildings (see Figure 19) lay directly over the top of the infilled moat and were dated stratigraphically to the fourteenth (SA10) and fifteenth centuries (SA11424).[9] The new dating from the Follo Line project prompted Stige and Bauer (2018) to re-examine the medieval diploma material. They found that of the 70 properties mentioned in the diplomas, at least 16 of these included stone buildings (2018: 79). The majority of these entries

[9] A pottery sherd dating to the period 1150–1350 was found in the construction cut for stone building (SA10). The building slightly overlapped the edge of the ditch and was therefore later in date. This means the building was constructed during the first half of the fourteenth century. There was no direct dating for building SA11424, however several sherds of pottery lying under an associated surface were dated to the fifteenth century.

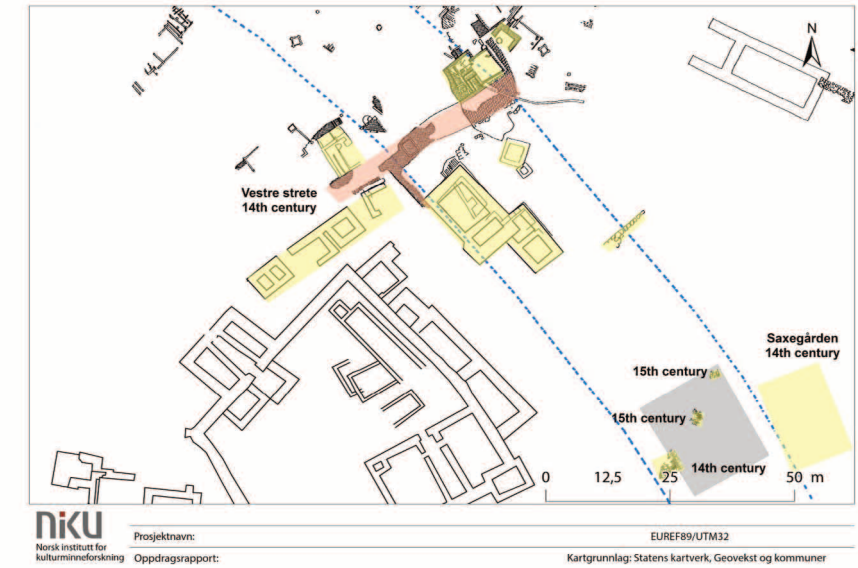


Figure 19. Location of the stone building (yellow) which lie over or respect the abandoned moat (grey). At the bottom right lies Saxegården, together with three buildings uncovered during the 2014-2016 excavations. The dating suggests that the buildings were erected in the 14th and 15th centuries after the abandonment of the moat. The section of Vestre strete (shaded red) conforms to the dimensions laid out in Magnus Lagabøte's Bylov, indicating that it was constructed after the abandonment of the ditch in the late thirteenth-early fourteenth century. Map: Michael Derrick NIKU.

dated to the fourteenth century with 3 dating to the fifteenth century. Stige and Bauer suggested that most of the buildings were likely to have been constructed during the town's expansion period in the late thirteenth century and early fourteenth century. The archaeological evidence together with Stige and Bauer's findings, supports the idea that the undated stone buildings close to Kongsgården are likely to date to the fourteenth-fifteenth centuries after the abandonment of the moat. The buildings are likely to have been erected by the wealthier in society with a possible connection to Kongsgården.

The dates for the stone buildings excavated in 2014–16, together with Saxegården, may reveal more about the state of the moat after abandonment. Figure 19 shows that the fourteenth century buildings were located along the edge of the moat and

did not have encroached on the main body structure. The reason for this could be that the moat had only been partially backfilled at this time and conditions within the structure could have been marshy and unstable. In the fifteenth century we begin to see building in the centre of the moat. This implies that conditions were better and that perhaps the moat had been completely backfilled at this period. Whether Meyer's buildings also date to this period is another question; however, it does offer a theory which could help put his buildings in context.

Vestre strete and the entrance to Kongsgården

The stone buildings are not the only structures that appear in the empty area around Kongsgården. The buildings are associated with a cobbled street which leads out from the western entrance of Kongsgården in a north-easterly direction, before splitting in two; one continued towards the north-east and the other followed a south-easterly direction, along Kongsgården's northern façade (Figure 20). Fischer (1950) identified the road as the southern end of Vestre strete based on its width[10] and location. Most of the buildings appear to respect the road and are likely to have been built at same time. It is likely then, that the stone road represents a fourteenth-century phase of Vestre strete, based on the timescale for the abandonment of the ditch and possible date for the stone buildings.

The discovery of Vestre strete in 1892 is important, as it preserves the preferred route taken from Kongsgården's western gate towards the rest of the town. Evidence from earlier excavations in the medieval town has shown that the medieval streets and roads are multi-phase constructions, laid down in the same place over many centuries.[11] Vestre strete is likely to follow this same pattern, which makes it the most likely place for crossing the moat and entering into the grounds of Kongsgården. In order to cross the moat, there would have to have been a drawbridge supplemented with other defences such as palisades and perhaps external walls and towers. Unfortunately, we do not have any evidence for structures such as these; however, it is possible that some of the stone buildings around the crossing point could have played a role in the protection of the entrance.

[10] Magnus Lagabøtes Bylov of 1276 (VI Ch. 4) regulated the width of allmenningene (the common roads) and streets to a width of 8 alen, c. 4.40 meters wide. The street conforms to these dimensions, suggesting a post-1276 date.

[11] Excavation in Oslo gate 2–8 (Smedstad 1991) unearthed many phases of Nordre strete while the excavations at Bispegata (Berge et al. in prep) revealed 5 phases of the medieval Bispeallmenningen dating to between 1100 and 1350.

Figure 20. The two stone streets uncovered by Meyer in 1892 together with a series of stone buildings. Both the streets and buildings are likely to post-date the moat which would have lain underneath. The street closest to the camera was later interpreted as Vestre Strete, one of Oslo's most important thoroughfares linking Kongsgården to the bishop's castle. The prominent building at the top of the picture is Saxegården, the location of the moat excavations. Facing south-east. Photographer: Meyer 1892 (Fischer 1950).

The summing up

Part of the moat found close to Kongsgården provides us with a rare glimpse into the defensive landscape that would have dominated the area during the late 13th century. The defences were constantly upgraded and repaired in response to new innovations in warfare and destruction caused by enemy attack.

In 1254 one such attack ended in the town being engulfed in flame. This is likely to have provided the impetus for King Håkon Håkonsson to start afresh and rebuild his wooden fort in stone. This project also included a revamp of the external defences to include a moat and ramparts which protected Kongsgården's northern walls. The moat would have been 4 meters deep, 15 meters wide and was partially filled with water. It stretched from the Alna river in the east to Oslo fjord in the west and is likely to have been complimented by a mound which would have lain along its south-

ern edge. This would have provided a formidable barrier to anyone hoping to attack the town from the north. Additional mounds and palisades along the riverbank and Oslo fjord would have completed the defences, effectively enclosing the whole of Kongsgården. The edge of the moat extended northwards towards the main settlement, bringing Kongsgården closer to the heart of the medieval town and making sense of an area which was previously thought to be derelict and unused.

The defences however do not seem to have been effective. This is apparent from the state of the moat which is already falling into disrepair sometime between 1260 and 1280. Part of the reason for their failure could be their reliance on the defences of Sarpsborg and Ilevollene as a blueprint. These defences were already very old and outdated by the time King Håkon decided to rebuild.

The final nail in the coffin for the moat appears to be the construction of the new fortress at Akersneset in the 1290's. The moat is abandoned and backfilled and a series of stone cellars are built on the newly freed-up land. A new stone phase of Vestre strete is constructed in area close to Kongsgården's entrance which may have been the original crossing point for the moat. This is significant as the moat is now completely redundant; however there remains a need for passage into Kongsgården which has now been transformed into an administrative centre.

This failed rebuilding project by King Håkon could be looked on as an embarrassment. However, the relatively rapid abandonment of the defences and the construction of Akershus fortress perhaps reveals a willingness for Norwegian kings to admit that they are wrong, move on and adapt. The rebuilding of Kongsgården in stone together with the construction of the moat therefore would not have been a complete waste of time. Rather it would have provided the motivation needed to think bigger and launch Oslo onto a larger European stage with its power-centre focused on the new fortress.

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