

# Offa's Dyke Journal



Volume 1

Edited by Howard Williams and Liam Delaney

## Aims and Scope

*Offa's Dyke Journal* is a venue for the publication of high-quality research on the archaeology, history and heritage of frontiers and borderlands focusing on the Anglo-Welsh border. The editors invite submissions that explore dimensions of Offa's Dyke, Wat's Dyke and the 'short dykes' of western Britain, including their life-histories and landscape contexts. *ODJ* will also consider comparative studies on the material culture and monumentality of frontiers and borderlands from elsewhere in Britain, Europe and beyond. We accept:

1. Notes of up to 3,000 words
2. Interim reports on fieldwork of up to 5,000 words
3. Original discussions, syntheses and analyses of up to 10,000 words

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# The Danevirke: Preliminary Results of New Excavations (2010–2014) at the Defensive System in the German-Danish Borderland

Astrid Tummuscheit and Frauke Witte

*Between 2010 and 2014, the State Archaeological Department of Schleswig-Holstein in Germany jointly undertook excavation work with the Danish Museum Sønderjylland – Arkæologi Haderslev on the linear earthwork monument, the Danevirke. These transnational excavations have led to important new findings, which include the discovery of the site of a gateway, where major transport routes converged for at least five hundred years. Furthermore, newly gained C14-dates indicate that the second main building phase of the Danevirke dates to around AD 500. Therefore, the dating of the first beginnings of the earthwork must be pushed back in time, making the Danevirke more than 200 years older than previously thought. Additionally, dendrochronological dates show that around the year AD 1200 substantial building activities took place, which reveal the intention of developing the Danevirke further. A project is currently ongoing, which aims to publish the results of the 2010–2014 excavations. This article outlines the synopsis of those results and current working hypotheses.*

*Keywords:* Danevirke, Hedeby (Haithabu), Jutland, Schlei fjord, Schleswig, UNESCO

Perhaps no other linear barrier demonstrates such development over such a long period of time (Spring 2015: 114)

## The Danevirke

In the southern part of the Jutland Peninsula, in what is now northern Germany, a system of earthworks, palisades and stone walls form the ‘Deed of the Danes’ otherwise known as the Danevirke in Danish, or Danewerk in German (Figure 1). The excavation site is in Germany, located in the former duchy of Schleswig, about 5km south-west of its historic capital the town of Schleswig (Figures 2 and 3).<sup>1</sup> The area has been Danish-German borderland since at least the early Middle Ages and was within Denmark until the Danish-Prussian war of 1864. Together with the trading site of Hedeby the Danevirke was inscribed by UNESCO as a World Heritage Site in June 2018.

The Danevirke has a total length measuring around 32km and was constructed in several phases across the narrowest section of the Jutland Peninsula (Figures 1 and 2). It stretches

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<sup>1</sup> Figure 2 shows the German terms/names of the different parts of the Danevirke. For a general concordance of German, Danish and English terms used in the text see Table 1.



Figure 1: Map showing the southern part of the Jutland Peninsula, the location of the Danevirke at the Isthmus of Schleswig and other linear earthworks mentioned in the text (after Maluck and Weltecke 2016: 58-59 with additions).



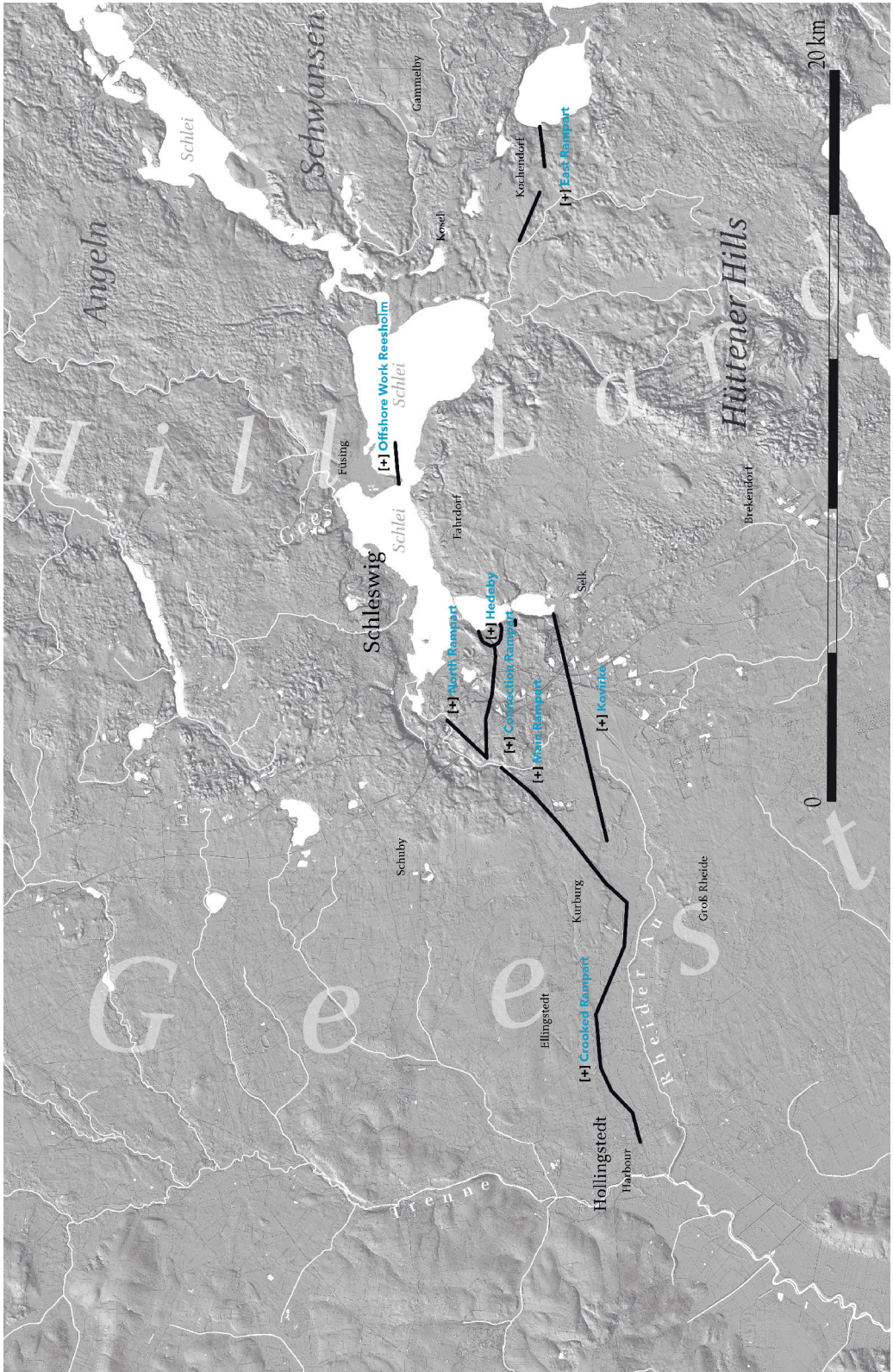


Table 1: the relationship between German, Danish and English terms for components of the Danevirke

German	Danish	English
Hauptwall	Hovedvolden	Main Rampart
Krummwall	Krumvolden	Crooked Rampart
Nordwall	Nordvolden	North Rampart
Osterwall	Østervolden	East Rampart
Halbkreiswall	Halvkredsvolden	Semicircular Rampart
Verbindungswall	Forbindelsesvolden	Connection Rampart
Kograben	Kovirket	Kovirke
Doppelwall	Dobbeltvolden	Double Rampart
Bogenwall	Buevolden	Curved Rampart
Seesperrwerk Reesholm	Stegsvig Søspærringen	Offshore work Reesholm
Feldsteinmauer	Kampestensmuren	Fieldstone Wall
Sodenwall	Tørvemuren	Turf Wall
Waldemarsmauer	Waldemarsmuren	Brick Wall
Palisadenwall	Palisadevolden	Palisade
Haithabu	Hedeby	Hedeby
Ochsenweg	Hærvejen	Ox Road or Army Road

Figure 2 (previous page): The Danevirke has a total length of about 32km and was constructed in several phases across the neck of the Jutland Peninsula. The site of the 2010-2014 excavation (red dot) is located about 5km south-west of the town of Schleswig (after Maluck and Weltecke 2016: 66-67).





Figure 3: The excavation site in 2013 as seen from the east. The Main Rampart of the Danevirke runs from south-west to north-east. Today it is crossed by a modern road named 'Ochsenweg'. At the excavation site one can see the remains of the Fieldstone Wall, which has a wide gap, which is the site of the former gate. There is also the section through the Main Rampart (for details see Figure 6).

from the low-lying wetlands of the North Sea coast in the west of the peninsula to the east, where the Schlei fjord, a narrow inlet of the Baltic Sea, reaches inland as far as the town of Schleswig, thus constricting the north-south land route to a 6km-wide zone at the *Schleswiger Landenge* (Isthmus of Schleswig). During its period of use which reaches roughly from the time around AD 500 to AD 1250, the structure was enhanced, reinforced and rebuilt several times to adapt it to new political and military requirements (Figure 4). The Danevirke consists of several earthen ramparts, a stone wall dating to the eighth century and a twelfth-century monumental brick wall (Figure 5), not to mention its reuse in the nineteenth and twentieth centuries.<sup>2</sup>

The 5.4km-long Main Rampart (Hauptwall) is the core of the system. It includes all building phases (including a fieldstone wall and a brick wall) originating from sometime before AD 500 to around AD 1250. At the site of the 2010-2014 excavation, the Main Rampart is

<sup>2</sup> If not cited otherwise, the following description of the different parts of the Danevirke is based on Andersen's monograph (Andersen 1998; Hamann 1861; Müller and Neergaard 1903; La Cour 1951; Maluck 2017; in English, see also Dobat 2005, 2008).

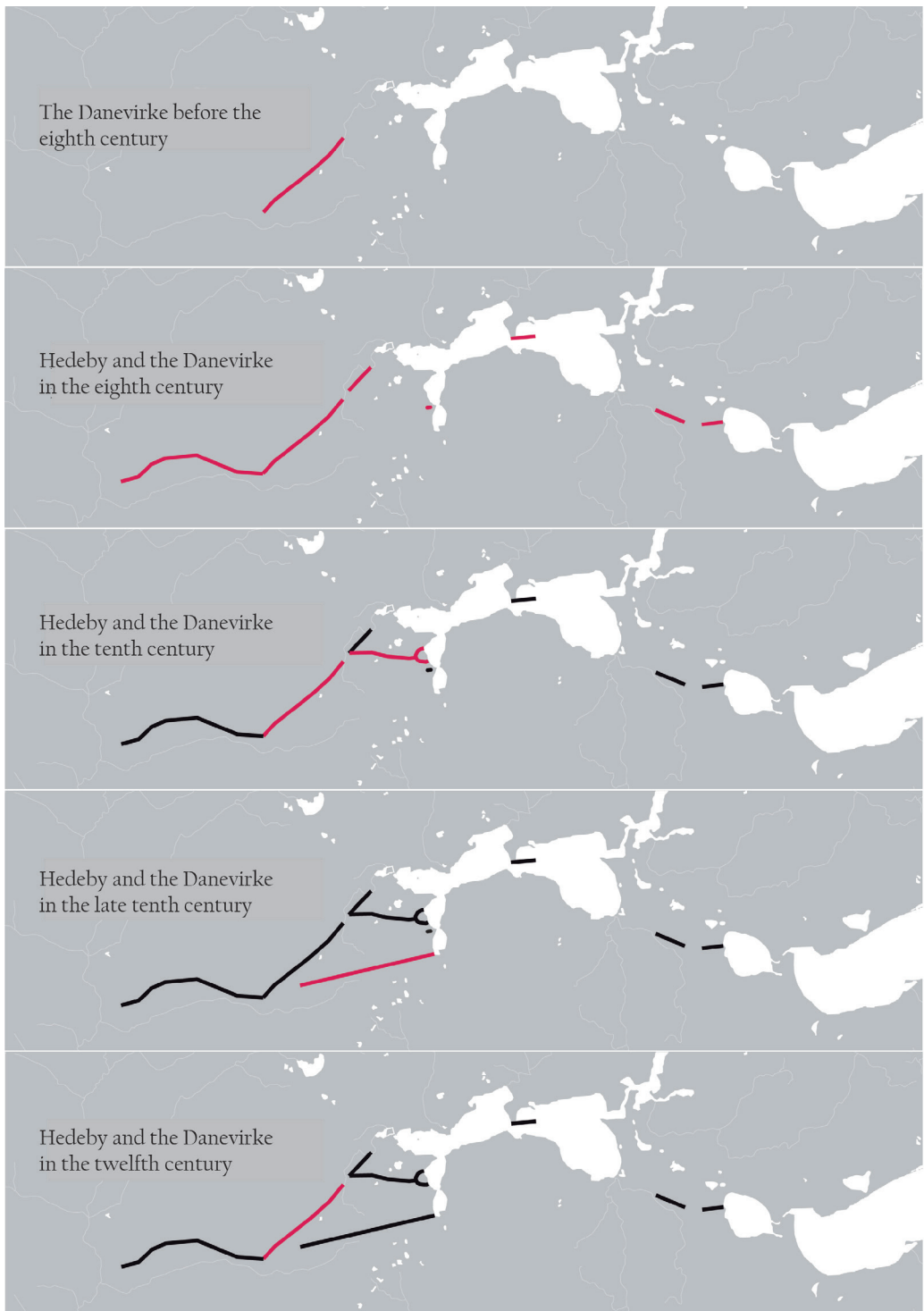


Figure 4: Construction stages of the Danevirke. Red are new stages, black are existing or former stages, some of which may have persisted in use into subsequent centuries (after Maluck and Weltecke 2016: 91).

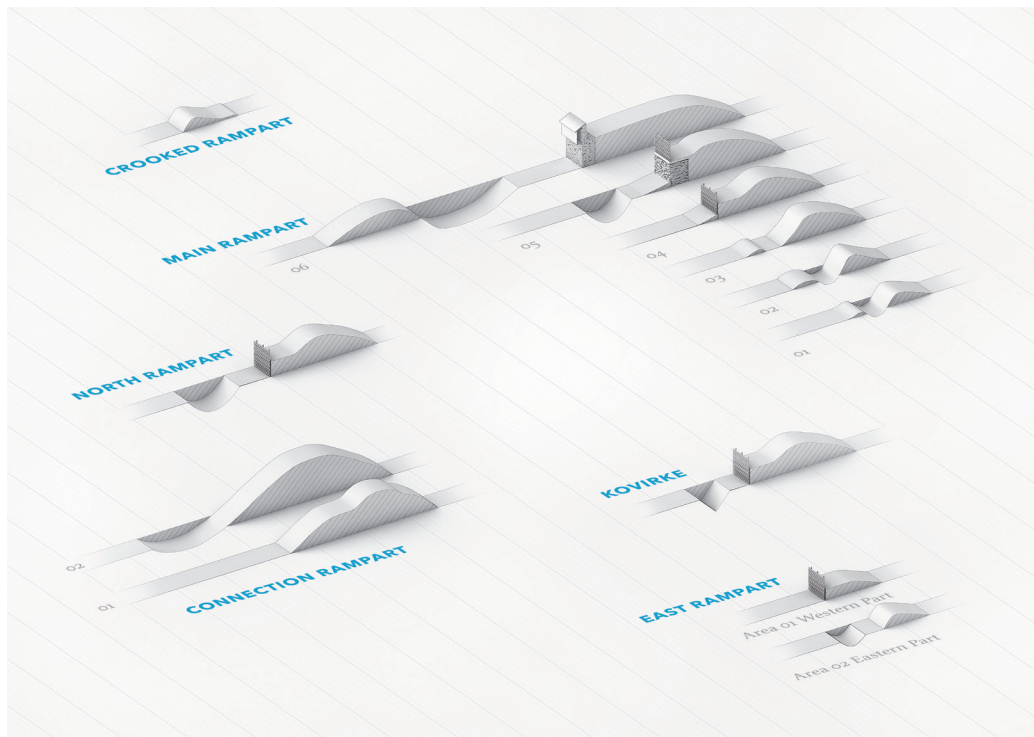


Figure 5: Building phases of the different parts of the Danevirke (Maluck and Weltecke 2016: 76-77 after Andersen 2004).

crossed by the ancient trackway known as either Hærvejen (the Army Road) or Ochsenweg (Ox Road). This route runs north-south across the spine of the Jutland Peninsula from the Limfjord area in the north to the River Elbe in the south. It dates back to at least the Bronze Age but may have earlier origins (Becker-Christensen 1981; Madsen 2018).

On the western flank of the Main Rampart the 6.6km-long Crooked Rampart (Krummwall) runs on the northern side of the Rheider Au valley as far as the medieval harbour of Hollingstedt on the River Treene in the west. As far as we know at present, the Crooked Rampart was added around AD 700 to the Main Rampart.

The North Rampart (Nordwall) is a 1.7km-long north-eastern extension to the Main Rampart. It reaches as far as the innermost part of the Schlei fjord. The North Rampart as well as the wooden offshore work Reesholm (Sperrwerk) (1.8km) were dated by dendrochronology to the years around AD 740.<sup>3</sup> Due to the similarities in construction it can be deduced that the East Rampart (Osterwall) was built around the same time. Furthermore, the Main Rampart was strengthened around the same time period, or later, by the addition of a stone wall.

<sup>3</sup> There are more earthworks belonging to the Danevirke system such as the Double Rampart or the Curved Rampart (Andersen 1998: 110-117), which are excluded in this brief overview.



After a long break in activity, building activities resumed during the tenth century when the Semicircular Rampart was constructed to protect the harbour and trading centre of Hedeby (Haithabu). Shortly after, the 4km-long Connection Rampart (Verbindungswall) was added to link Hedeby with the Danevirke system for the first time. At the end of the tenth century, the 6.5km-long straight line of the Kovirke (Kograben) was erected south of the old Danevirke line, forming an additional protection to Hedeby's southern approaches.

Both the Connection Rampart and the Kovirke can be attributed to the Danish King Harald Bluetooth (c. AD 910–987). These can also be understood as a general display of royal power, but in particular it is a strong claim to Hedeby, making it so the settlement apparently no longer lay south of the Danevirke – no doubt for protective reasons, but possibly because of legal implications.<sup>4</sup> In the late twelfth century, the Danish King Waldemar I (the Great) instructed a monumental brick wall to be built in front of the Danevirke, which introduced brick as a new building material to the feature over at least 4km of the Main Rampart.

#### Excavations 2010-2014

When excavations started in 2010, a 5-6m wide gap was found, which later proved to be the remains of the opening where the Ox Road/Army Road originally crossed the Main Rampart of the Danevirke (Tummuscheit 2011: 84-87; Tummuscheit and Witte 2014a, 2014b) (Figure 2). Surely, as this was one main crossing point of the earthwork it is likely that it is the site of the gate mentioned in the Royal Frankish Annals in the year AD 808 (Scholz 1972) (Figure 3).

During the following years, the main focus was on the investigation of this possible gate and passageway through the earthwork. A large section through the entire rampart was also examined which included its earliest building phases, as well as excavation of a large area which lies south of and in front of the rampart and gate (Figures 3 and 6). One of the central aims of the excavation and the current post-excavation work is to gain a better understanding of the Danevirke's chronology, in order to relate the site's history and development to specific historical events.

#### *The oldest phases (Phase 1/2 and 3)*

It is commonly understood that the oldest part of the Main Rampart has a sequence of two building phases, a result derived mainly from excavations by Günther Haseloff in the 1930s (Haseloff 1937) and Hellmuth Andersen in the 1990s (Andersen 1998). The recent excavation has shown, however, that this rampart was probably constructed more or less in one main phase using the same building technique (Phase 1/2).<sup>5</sup>

<sup>4</sup> For more information about Harald Bluetooth works and the settlement of Hedeby, see e.g. Jensen 2006 and Jankuhn 1986.

<sup>5</sup> Traditionally termed phase 1 and 2 of the Main Rampart as in Figure 5.

The oldest earthwork (Phase 1/2) consists of sandy layers upon a cultural layer. The original ground surface (Figure 6) was removed over almost the entire excavated area, probably to be used for the stabilization of the top of the wall. In the cultural layer there were post-holes and plough-marks. No material suitable for radiocarbon dating was found in these ramparts or the cultural layer. To the south, right in front of the wall, was a ditch belonging to this phase. It was about 2.8 m wide and only about 0.5 m deep.

It was not possible to extend the excavation area to where the gateway crosses the oldest earthen phase (Phase 1/2), because it is on private property. It does seem though that the rampart was considerably lower than it is a few hundred metres to the west, which could be a vague indication of some sort of disruption of the earthworks in this area rather than variation in its original design.

The turf wall is the second main phase of the Main Rampart, traditionally termed Phase 3 (Figures 5 and 6). It was placed in front (south) of the oldest earthwork and on top of the earliest ditch. In the gate area, both endings of this second rampart, definitely have a purpose-built gap, showing that a gate or opening already existed by this early stage, if not demonstrably in Phase 1/2 (Figure 7).

As this fortification was made of burnt heather turf, five samples were taken in order to determine radiocarbon dates for its construction (see Tummuscheit and Witte 2013: 146-66, 2014a, 2014b). The results revealed a date around the fifth and sixth centuries AD (Holst 2013: 147-48). Two sixth-century dates may hint that the wall was made taller sometime after the building of the wall. There had been suggestions of an early dating of the Danevirke among scholars before (i.e. Harck 1998; Madsen 2008: 40), but until the new radiocarbon dates there was no direct evidence for it and the generally accepted view was that the upstanding element of the Danevirke began c. AD 700 (e.g. Dobat 2008: 38-40). This early dating of the Danevirke means that the origins of the monument need to be fundamentally reassessed and we must re-evaluate the context in which it was first established. In particular, the origins of the Danevirke (fifth century) and the origins of the settlement of Hedeby (middle/late eighth century) cannot be connected any longer ('initial phase': Dobat 2008: 48). This also means that the theories of pressure from the Slavonic immigration and potential threat from the Frankish Empire can no longer serve as a possible impetus for constructing the first rampart, although these factors remain potential contexts prompting the later large enhancements and reinforcements to the Danevirke some hundred years later (Dobat 2008: 50).

As written sources are generally scarce for this early period, coupled with the fact their reliability can be questionable, it is generally considered that there is some sort of centralized leadership at this time.<sup>6</sup> Both the archaeological and the written sources

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<sup>6</sup> These questions are part of the ongoing research in the project. The engagement with the subject will give new insights into the socio-political organization of southern Scandinavia in the future.



Figure 6: A large section through the early Danevirke rampart north of the Fieldstone Wall looking south-west



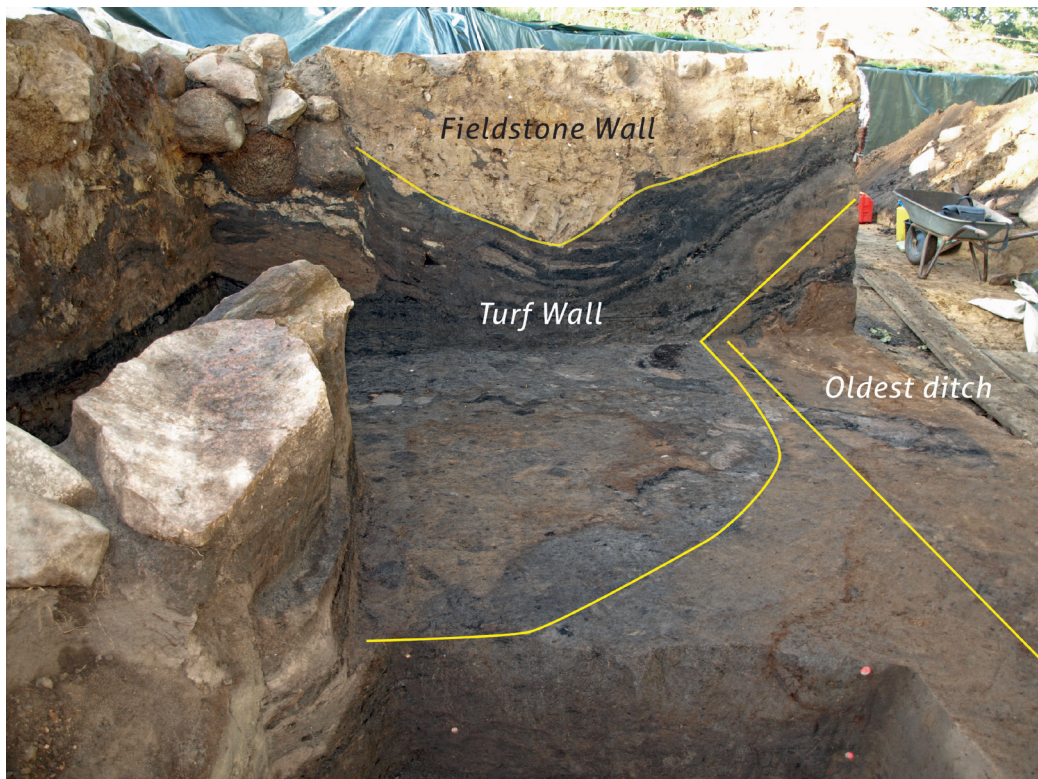


Figure 7: The ending of the Turf Wall on the western side of the gate as seen from the north-east

give hints on the interaction between the Jutes or Danes and the Angles (Ethelberg 2012: 286-300; Ethelberg 2017: 15-27), which might have led to the building of the first rampart. Why would there be an interest in building a more than 5 km-long earthwork – phases 1/2 and 3 of the Main Rampart – close to or around AD 500 anyway? Taking into account local typology, changes in burial rites, evidence of other ramparts further north (e.g. Olgerdiget, *Æ vold*: Figure 1) and finds from weapon sacrifices, one can imagine that as the Angles pressed northwards in the course of founding an early state around the first century AD (Ethelberg 2012). Two ramparts facing north were constructed (banks, palisades and ditches: Olgerdiget at AD 31 and *Æ vold* at around AD 150), forcing the inhabitants of this area to move further north. At some point these people reclaimed the land, pressing the Angles to the south again, and eventually erecting the main rampart of the Danevirke (Witte 2017: 5). At this time the identity of this group is unknown, it is possible it was one of the groups known from written sources (Dorey 1969; Gudeman 1900) of the first century AD, such as 'Jutes', 'the Varian tribe' or 'Danes' (Ethelberg 2017: 15-17, 27).

#### *Palisade and Fieldstone Wall (Phase 4/5)*

It is still a matter of debate if the Fieldstone Wall represents Phase 4 (Kramer 1984: 346) or Phase 5 (Andersen 2004: 24) of the Main Rampart (Kramer 1984; Andersen

1985; Andersen 1998: 49, 171; Tummuscheit and Witte 2018: 71). The central problem is whether posts, which repeatedly appear in connection with the wall, are the remains of a palisade and therefore represent an independent building in Phase 4 (Figure 5) or if they are an inherent part of the wall itself (Phase 5).

Originally, the Fieldstone Wall was 3m high, 3m wide and up to 4km long (Figure 8). It is a ‘Shell wall’ (in German ‘*Schalenmauer*’<sup>7</sup>) built of fieldstones or small boulders.<sup>8</sup> Especially at the front and the back, the stones were laid repeatedly in a herringbone pattern while the interior was built throughout of clay and rubble. At the back, the wall was always cut into the older earthworks and it had an additional support made of clean yellow clay. It is therefore evident that the herringbone pattern was not applied for aesthetical reasons, but to improve the stability.

Similarly to earlier phases the gateway survives, and west of this gate, the wall was comparatively poorly preserved, as it was used as a quarry to gather stones for the foundation of the brick built Waldemarsmauer in the late twelfth century (Figure 8 and 10). In the 2010-2014 excavation the Fieldstone Wall was found to sit partly on the remains of the Turf Rampart and the underlying fill of the earliest ditch (Figures 6 and 10).<sup>9</sup>

The aforementioned characteristic row of substantial post-holes (one approximately every 2m) were found under the base of the Fieldstone Wall. In some places there is evidence that the wall was built with the posts still standing. The posts were therefore interpreted by Kramer (1984) as a structural element belonging to the monument itself and not to an older palisade as Andersen believed (Andersen 1998: 171 ff.). Consequently, the dendrochronological dates of wooden remains in some of these post-holes were used to date the wall to around AD 740 (Kramer 1984). As similar dendrochronological dates were gained in other parts of the Danevirke it has, for the last decades however, been widely agreed that the wall was part of a huge construction project dating from shortly before AD 740 (Kramer 1984), this also included the reinforcement of the Main Rampart, the erection of the North Rampart, the wooden offshore work at Reesholm and the East Rampart (Kramer 1992; Kramer 1995) (Figure 4).

Although the phase following the Turf Wall (Phase 3 of the Main Rampart see Figure 5) was difficult to detect in the excavation, the current hypothesis, that Andersen put forth, holds up; that the row of posts represents remains of a wooden palisade which

<sup>7</sup> The German word ‘*Schalenmauer*’ translates as ‘Cavity Wall’ the construction is not unlike a drystone wall, with larger stones on the exterior of the wall, with the center packed with smaller loose stones and mortar. Here the term Shell Wall will be used to describe this.

<sup>8</sup> The established name of the wall is ‘*Feldsteinmauer*’ in Germany and ‘*kampestensmuren*’ in Denmark (see also Table 1). In English a direct translation would be ‘Fieldstone Wall’ which is used in this text, which does, though, not necessarily mean that all the stones were collected in the surrounding fields.

<sup>9</sup> This is not always the case: only about 30 m to the east the Fieldstone Wall sits a few metres in front (south) of the older ditch (Kramer 1984: 345 Abb. 2), proving a – at least partly – different alignment of both.





Figure 8: The Fieldstone Wall west of the gate as seen from the north-west. Here the stone wall is comparatively poorly preserved, as it was used as a quarry to gain stones for the foundation of the Waldemarsmauer (also see Figure 10)



Figure 9: The section of the Main Rampart of the Danevirke and the back of the Fieldstone Wall as seen from the north. The height of the remains of the ramparts plus Fieldstone Wall is almost 4m

was erected in around AD 740 as an independent building phase (which would then represent Phase 4 of the Main Rampart see Figure 5) and which only some decades later was followed by and incorporated in the Fieldstone Wall. One of the main reasons to believe this is that the characteristic posts of the Palisade occur not only where the Fieldstone Wall was extant, but also where it was never built (e.g. in the North and East Ramparts and in parts of the Main Rampart, too see Figure 2 and 5). However, the evidence also suggests (in contrast to Andersen's view) that the Palisade (phase 4 of the Main Rampart see Figure 5) was not contemporary with the Turf Wall (phase 3 of the Main Rampart see Figure 5) but represents either a much later addition to it or a renewal of its derelict front.

Although the Fieldstone Wall was not excavated, in order to properly preserve the remains, the medieval disturbances in the wall were used (Figure 10) to get an (almost) non-destructive look at details of its construction. In at least three different locations it became clear that the lower rows of stones did not quite fit into the direction of the stone body on top. In some places the stones stuck out, whereas in others they were clearly set back from the stones above. Additionally, the lower stones had not been dressed, as was the case with many of the stones on top, and the mortar the stones were set in was clearly different: in the upstanding wall it was a yellow clay whereas, it was grey clay between the stones beneath. Scientific analysis carried out by Kaare Lund Rasmussen of Syddansk Universitet, Odense showed a clear difference between the two types of clay, caused by the different origins of the material. This evidence suggests that there might have been two building phases for the Fieldstone Wall (Rasmussen 2013: 188ff).

Remains of a comparable single layer of stones were found in 1971 by Andersen and Madsen while excavating the North Rampart, which has the row of substantial post as described above, but no Fieldstone Wall (Andersen 1998: 101, figure 106 and 107). Additionally, during his excavation at the North Rampart in 1933, Herbert Jankuhn found stones in a similar position which he described as 'of unknown purpose' (Jankuhn 1937: 168).

There is, therefore, some evidence (posts and stone layer under the Fieldstone Wall and in other parts of the Danevirke such as the North Rampart) which indicates that an independent building Phase 4 (Palisade) existed and preceded Phase 5 (Fieldstone Wall) (see Figure 5 Main Rampart).

Mainly, but not solely, based on these observations, there is more and more reason to doubt that the Fieldstone Wall was actually built in or around AD 740 and it is more plausible that it was added a few decades later, as suggested by Andersen (Andersen 1998: 183) and that it may even be associated with the Danevirke of King Godfred mentioned in the Royal Frankish Annals from the early ninth century (Scholz 1972).<sup>10</sup>

<sup>10</sup> Regarding the reinforcement of the Danevirke by King Godfred recorded in the Royal Frankish Annals Dobat (2008:41) concludes a renovation of older structures. On the background of the latest observations, it is now possible, that the Fieldstone Wall might be the missing 'Godfred's Danevirke'.





Figure 10: The Fieldstone Wall west of the gate looking west. In the centre, the photo shows oval disturbances (white arrows) in the Fieldstone Wall, where stones were taken away to build the foundation of the brick wall (grey rectangle)

While the precise dating might be disputed, the excavated evidence provides strong evidence that the Danevirke was reinforced heavily during the eighth century, including the construction of a massive 4km-long Fieldstone Wall. These substantial extensions are a clear and early indicator of a strong ruler north of the Danevirke marking the border of his territory, not only creating a physical obstacle to keep out unwanted visitors, but also demonstrating his ability and authority to have a wall of monumental size and strength built.

### *The (Viking Age) gateway*

In 2010, it had become clear that there was a 5 or 6m-wide gap in the Fieldstone Wall (Figure 3). After the removal of the thirteenth century fill a 3.5m-wide sandy trackway was found, which proved to be the remains of one of many layers of a road which must have run through the Danevirke since the gate was established (Figure 11).

It consists of thin layers of eroded sand, which show marks of cart tracks (Schovsbo 2013: 206). These layers are remains of a sunken road, and a deposit of charcoal on top of these sediments, which has provided a couple of radiocarbon dates to the second half of the tenth century (Tummuscheit and Witte 2013: 17–18).

At present, it is clear that this passage through the Danevirke had been in use since at least the erection of the Turf Wall (see above and Figure 7), perhaps even since the

very first earthen rampart and that it ceased to be used some time during the thirteenth century. The passage was therefore open for at least 700 years – probably more – and had cut itself deep into the glacial sand forming a hollow way. The lowest surface of this sunken road lay more than 1m below the base of the Fieldstone Wall.

The discovery of the gate and the entrance way through the rampart showed, for the first time, the existence of a central gate in the Main Rampart, which was established at the same time as the second main building phase (Turf Wall), it is possible even at the same time as the first phase. Before this discovery, Danevirke gates were only known from the tenth and eleventh century (Dobat 2008: 57–58).

### *The Medieval Rampart (Phase 6)*

In 2010, the starting point of the twelfth-century brick wall, the Waldemarsmauer (Phase 6 of the Main Rampart see Figure 5), was identified, although only a tiny bit of this mighty brick wall had survived within the limits of our excavation. From the foundation of the Waldemarsmauer, we could define to the nearest centimetre the point where the construction of the wall was begun in the late twelfth century (Figure 10). This point lies about 10 m to the west of the newly found gateway. On the eastern side of the gate there were no traces of the Brick Wall whatsoever (Witte and Tummuscheit 2018: 73).

### *The medieval road*

The area south of the Danevirke gate which has ditches and remains of several road surfaces was also excavated (Figure 12). There were both sandy layers and layers of cobblestones, which might represent remains of road surfaces, but the post-excavation work is still ongoing. All these features run parallel with the rampart on the eastern side of the gate and head into the direction of the gate, although they are not preserved there. Connected to what is probably the newest phase of pathways, remains of more than 30 wooden posts, which were dendro-chronologically dated to around AD 1200, were found. Additionally, a sherd of highly decorated earthenware, pieces of a wooden drinking cup, building stones of imported tufa<sup>11</sup> and other finds from the same period show that the gate was not closed by that time (of the death of Waldemar I in 1182), and the rampart and road were not only still in use, but also have been subject to extension and rebuilding (Witte and Tummuscheit 2018: 73).

### **Defence and a show of force**

Through its lifetime, the Danevirke consistently served as a physical barrier to the movement of people, resources and materials – and it still remains the largest scheduled monument in Northern Europe (Northern Germany and Scandinavia). It was certainly built as a means to protect an area, to draw a line, which would assist any defensive measures. In

<sup>11</sup> Building material made of rock composed of volcanic detritus, fused together by heat imported from the Eifel-area south-west of Cologne. The building stones were used for the construction of churches mainly on the southern and western coasts of the North Sea but also in the Schleswig area.



Figure 11: The remains of one of many roads, which has survived as a 3.5m-wide sandy trackway looking north-east

between the different phases of building activities, archaeological evidence shows times of non-use for shorter and longer periods until a new defence was raised, often built in front of its predeceasing structure.

The early earthen ramparts, the Fieldstone Wall and the Brick Wall – which always face to the south – could be seen from a distance and surely made an impression on the populations living within its environs, both friends and foes. Besides controlling movement, protecting trade routes and being a major military stronghold the Danevirke would have functioned as a symbol and a political statement the power of the state that built it too.

The erection of the Fieldstone Wall and the Brick Wall elevated the rampart to new heights. Not only in regard to the building techniques adopted, which were state of the art in their respective times, but also concerning their enhanced visual impact, the Danevirke was not just a barrier but a symbol of elite, perhaps royal, power.

In the eighth century, the massive 4km-long and 3m-high Fieldstone Wall had no equivalent in the whole of Northern Europe. Certainly, other ramparts (like hillforts) were ditched earthworks with sometimes possible additional built wooden palisades. Yet, no other stone constructions of a comparable size are known from the area until





Figure 12: The area south of the Danevirke gate during the excavation in 2014 looking southwest. The fills of ditches and remains of trackways are visible. The stones in the forefront are remains of a slope below the rampart east of the gate which was covered with a layer of clay with stones on top. On the western side of the gate the same feature appears

around the twelfth century. The scale of each stage of building work was unprecedented. Indeed, it is probable that the stones used for the Fieldstone Wall were not gathered locally but more likely transported from the east coast, which was 30km away.<sup>12</sup> As a result of this project, it is estimated that some twenty million stones were transported: this was an enormous undertaking and a highly skilled and well-organised workforce would be needed to build with the new material.

This use of new construction material on the Danevirke was repeated in 1162/3 when Waldemar I ‘The Great’ built the Brick Wall. This is a time when bricks as building material were still largely unknown in Northern Europe. It is therefore presumed that the labour to build a 4km-long and up to 5m (7m if topped by a wooden palisade) high wall, would have had to be imported from Italy and France, in order to have the necessarily skill base to construct one of the earliest (and definitely the largest) brick built structure in the whole of Northern Europe.

Who were its builders then? For the medieval Brick Wall we know it was Waldemar I (Schindel 1999: 65-66). Moving back to the late Viking Age, the tenth-century activities

<sup>12</sup> See also footnote 7.

can be attributed to Harald Bluetooth (Dobat 2005: 148). For the early Viking age, the written sources hint at King Godfred (Scholz 1972; Tummuscheit and Witte 2018: 76). Yet for the very beginning in the late Iron Age, the written sources are very rare and there is not yet sufficiently evidence enough to give an answer. Presumably there must have been a central leader or a group of rulers powerful enough to claim the area for themselves and with enough authority to get a population of people to undertake the construction work.

In any case, it is the first time the limits of the southern extent of the area which would later be known as Denmark were defined. This would have been a monumental structure, which even in times that there was no need for any fortification on that boundary, the rampart stood, marking the border of the emerging state. The longevity of the Danevirke can be exemplified that it was in such good condition that it was even reused as a military defense in both 1864 and 1944 (Andersen 2004: 81–85; Kühl and Hardt 1999: 93–124, 139–44).

### The context and comparator monuments

With its sequence of several major building phases, the usage of different materials and times of abandonment and reuse for about seven hundred years the Danevirke stands alone compared to other linear earthworks in Europe. Linear earthworks first appear in the first and second centuries in Jutland which typically consists of banks and palisades with ditches of modest size, mostly used as road blockers (Spring 2015: 117).

Later on, a wide range of types of fortification were used in Scandinavia. The different types and building materials reflect the local topography and resources. Most of them are poorly understood or even not investigated at all, therefore details of their building history and precise dating are often unknown. In the mid-/late first millennium AD, we have evidence of sea barriers, hillforts and fortified refuges, urban town banks, and during the early second millennium AD we have castles and town walls. Yet despite this variability, the Danevirke stands alone: there is no other linear earthwork of the Viking Age or the Middle Ages (Spring 2015: 109–17). The closest comparison comes from the ramparts of tenth-century at Birka in Sweden, which are earthen banks with ditches and a timbered palisade (Roesdahl 1993: 210). The Birka system actually relates to the semicircular rampart at Hedeby – which is one part of the whole Danevirke system itself. Additionally, a 2km-long stone wall named Tunborg – probably from the Viking Age – is known from the Swedish island of Gotland where an older fortified refuge was extended (Roesdahl 1993: 210, figure 24).

During the reign of King Waldemar I of Denmark in the twelfth century, at the same time as the Brick Wall was added to the Danevirke, only a few castles and the church of Ringsted (1161) were built using brick. In Norway and Sweden castles and churches of the Middle Ages were built of stone almost exclusively.

In Germany, earthworks of the Roman Iron Age were described by Tacitus (Dorey 1969; Gudeman 1900). These were built in order to control and defend Roman territory against the ‘barbarians’, the Roman Limes were built from the first century AD. The extent of these earthworks are around 550 km long, including all building phases such as roads, earthen banks, ditches and palisades. In around AD 206/207, at the Upper Germanic-Rhaetian Limes (Raetischer Limes), an earthen bank and ditch were converted into a stone wall up to 3m high, known as the ‘Teufelsmauer’ (Devils Wall) (Nunn 2009: 93–97).

Britain has many linear earthworks or dykes mostly made of an earthen bank with a ditch (Bell 2012). They date from the Bronze Age to the early medieval period. In the Roman period, Hadrian’s Wall (built from AD 122) was originally built from turf like the second oldest main phase of the Danevirke (Phase 3 of the Main Rampart; see Figure 5), and then later a shell wall of stone was constructed (Bell 2012: 95–97). It is possible that its forerunner probably was the stone wall ‘Teufelsmauer’, a part of the Limes. Like Hadrian’s Wall and the Danevirkes Fieldstone Wall the ‘Teufelsmauer’ was constructed as a shell wall.

Regarding Offa’s Dyke, both monuments share a lot of similarities; reputedly they both stretch from sea to sea and were developed in several stages. Both the Danevirke and Offa’s Dyke have been dated to originate from the eighth century AD, but as discussed above, recent investigations now have radiocarbon dates from the fifth century AD for the Turf Wall of the Danevirke. Similarly, radiocarbon analysis was being undertaken on the bank of Offa’s Dyke and showed the possibility for it to have been built sometime after AD 430, tentatively suggesting an earlier date of construction than previously believed (Belford 2017: 69). Additionally, the function and role of the two ramparts as physical barriers serving as territorial markers and as symbols of power are comparable, as are the functions of control of populations and military expansion alternating with phases of abandonment. The central part of the Danevirke was built in a straight line with gateways and roads and Offa’s Dyke is postulated to be of a similar design. Further, both the Danevirke and Offa’s Dyke were built to be monumental displays to be seen from a long distance and designed to lead existing roads to gates to control access (Belford 2017: 62–83).

## Conclusion

Some of the results presented in this article remain in the preliminary stages and are subject of an ongoing research project. It is, however, already certain that the new excavations have led to new results with far-reaching consequences, especially concerning the dating of the earliest and the latest phases of the Danevirke, which have already fundamentally changed the view of the Danevirke and its complex biography from at least the fifth century to the present day.

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