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Collected Information for teachers

Topic: Archaeology

As an archaeological heritage site, a crucial part of the scientific research of Hedeby and the Danevirke is based on excavations and other methods related to archaeological substance. Because of its rich and well preserved archaeological material, it has become a key site for the interpretation of economic, social and historical developments in Europe during the Viking age. They encompass all the archaeological sites and structures of the sixth to twelfth centuries which are necessary to convey the significance of the property. All important historical building phases and structures, the archaeological material and substance, the construction and layout and the situation and setting of the sites are well preserved and adequately intact as archaeological sites and scientific sources. This gives us an interesting insight into the cultural and strategic position of both sites in their historical surrounding.

Hedeby and the Danevirke are a unique combination of monuments, some visible above ground and some only accessible by archaeological means, which have been overbuilt or damaged to different extents over time by the area's subsequent uses. On the whole, the state of conservation is to be rated as outstandingly good in regard to the significance of the monuments as archaeological structures and landscape and as scientific sources. The property as a whole is generally in a condition that is able to secure their historic, scientific and social values for the long term. Locally, the state of conservation varies to some degree, especially as some areas are currently encroached by plant cover, agricultural use or frost. All of these restrictions are being monitored and minimised by measures within the scope of the Management Plan. The location of the archaeological structures, their connections with other archaeological sites and other aspects of how they relate to the space and lines of sight within the landscape, as well as other visual and physical facets of their spatial impact, are key to understanding Hedeby and the Danevirke, and significant elements remain preserved to his day. Though the landscape is not the same as it was a millennium ago, it still has many of the characteristics which underpin the value of Hedeby and the Danevirke, especially the topography of the different landscapes between Eckernförde Bay to the east and the flats of the Eider and Treene to the west, and the visual integrity of the surroundings in the buffer zone and the wider setting.

Hedeby and the Danevirke encompass all the archaeological sites and structures of the sixth to twelfth centuries which are necessary to convey the significance of the property. All important historical building phases and structures, the archaeological material and substance, the construction and layout and the situation and setting of the sites are well preserved and adequately intact as archaeological sites and scientific sources. Further features important for the

functional and visual integrity of the setting are included in the buffer zone and the wider setting. Thus, the landscape is still largely intact with respect to its historical topography. Furthermore, the surrounding of the sites is free from any standing structures that would have a significant impact on the visual integrity of the nominated property. The ground of Hedeby has never been developed and thus provides a multitude of options and research questions for archaeological study. Hedeby is the only emporium in Viking-Age Europe with a preserved town layout and harbour including shipwrecks and remains of landing stages which served as a market. The largely undisturbed site also contains exceptional archaeological relicts of wooden houses, infrastructural elements, workshops, graves and a broad variety of finds made of often perishable materials. Large parts, 26 km, of the preserved structures of the Danevirke are still visible as pronounced embankments or low ridges. Some parts of the sections, especially the western end of the Crooked Wall, are only known from archaeological surveys.

Years of excavation and prospecting have determined that the entire area enclosed by the Semicircular Wall on the west bank of Haddeby Noor was used intensively, especially in the ninth and tenth centuries. In the southwestern area there is a large grave field. During a later stage of the Viking Age, houses were built on parts of this area. From the end of the tenth century on, the entire area within the ramparts was evidently inhabited. The spots which are particularly archaeologically informative are at the lower reaches of the stream which flows through the centre of Hedeby. Within the Semicircular Wall, geophysical prospecting has revealed a dense, regular network of routes dividing the interior into plots. As one example of the dense population within the Semicircular Wall, between 2005 and 2008 the excellent archaeological findings and their extensive investigation made it possible to reconstruct seven buildings, typical corduroy roads (timber trackways), shoring along the route of the stream and a jetty in the harbour, on areas which had already been extensively excavated. The buildings thus give visitors an impression of this historical settlement and emporium. The thousands of structural timbers preserved in the occupation layers offer a basis for conjecture on the former shape of this early town in terms of its constructions, structure and sequence of settlement. The area near the harbour was obviously densely built-up, as is typical of this type of settlement, consisting of one-storey buildings with one to three main rooms, plus an infrastructure of wells, fences and paths of different construction types. The wooden buildings were constructed with plank walls or wattle and daub and did not contain stalls for animals. As a rule they were smaller than contemporary buildings in rural settlements such as the nearby village of Kosel. Some of the buildings were similar to Frisian structures from the Rhine- Meuse-Scheldt-Ems delta. Water was supplied by numerous wells. The settlement area was accessed via paths with bridges over the stream. The preserved remains of the wooden constructions are mostly from the lower layers, most coming from the ninth century, but occasional, deeply embedded structures (such as wells) also testify to the fact that this area was settled for longer. The most recent well which has been dated was built in the year 1020.

Alongside post-in-ground buildings, in the higher situated areas in the western part of Hedeby there are also numerous indications of pit houses, apparently concentrated in workshop areas. Excavations have provided evidence of buildings constructed in several stages, with posts supporting walls made of planks or wattle and daub, dug more than a metre deep into the ground. These were mainly used as workshops. Finds of waste material from production, semi-finished products and tools offer evidence of numerous crafts being carried out in Hedeby, including several types of woodworking, metalworking and stoneworking, jewellery-making, potteries, weaving and even goldsmithing and bell-founding. In the inner southwest section of the Semicircular Wall there is a large flat-grave cemetery. Between 1902 and 1912 at least 351 graves were excavated here, apparently all of which were inhumations. Not far to the south, the archaeologist Herbert Jankuhn excavated another group of ten elaborate chambered tombs, a cremation burial and two inhumation graves, part of a larger grave field. In both areas evidence was found of more recent overbuilding from the tenth century. At that point in time, at the latest, there was intensive development over the entire area enclosed by the ramparts built during the tenth century, and it was used for cemeteries and settlements. The size of the grave field area has only become apparent from modern geophysical prospecting, and still requires verification through excavations.

In Hedeby, craft products such as glass, jewellery, containers and vessels of all different kinds of materials, weapons and tools are preserved, in addition to many organic materials such as textiles and leather. Furthermore, timber from houses in their thousands, pathways and fences is well kept. Large quantities of raw materials, such as amber and metals including lead, tin, brass, silver and gold have been recovered. There are soapstone vessels and whetstones imported from Norway. Other finds demonstrating cultural contacts come mostly from burials. These include bronze bowls from Russia and the British Isles, Frankish glass objects, Islamic coins, a seal from Byzantium, quern stones and ceramics from the Rhineland. The jewellery encompasses typical Viking Age objects such as animal-style brooches and pendants. Iron shackles indicate a trade in slaves. Notable items include quern stones, recently identified as originating from Hyllestad (Norway) and objects such as oval brooches and moulds decorated in the Borre and Oseberg styles (both Norway). Beside numerous coins of Frankish and Islamic origin there are also numerous coins minted in Hedeby. Many objects indicate their owner’s Christian background or Christian religious practice in general, for example a large bronze bell found in Haddeby Noor. Furthermore, numerous substructures from port facilities have been documented as well as four Viking Age shipwrecks. Besides the royal longship raised when the harbour was excavated in 1979/80, Hedeby harbour has also produced a ship built in a Scandinavian/Slavic style, a knarr capable of carrying 60 tonnes and a high mediaeval pram ferry. The latter three ships are still on the floor of the Noor. The partially restored longship is the most spectacular exhibit in Hedeby's Viking Museum. The dock basin is also a source of rich finds, including items made of organic

materials (textiles, wood) worth particular mention as they are the exception elsewhere. The parts of the settlement which have been investigated stand out for the exceptional preservation of organic materials – textiles, leather and wood –unmatched by any comparable facilities in Scandinavia. Not only do the preserved organic materials allow the clothing and costumes of the Viking Age to be reconstructed, or inferences to be made, for instance about wooden items of everyday use and their production; structural timbers also form a basis for conjecture about the construction of the early town, e.g. of its buildings, streets and fences. This allows conclusions to be drawn about the settlement structure and timeline. The preserved remains of the wooden constructions are mostly from the lower layers, most coming from the ninth century, but occasional, deeply embedded structures (such as wells) also testify to the fact that this area was settled for longer. As well as organic finds, the overall Hedeby complex has also produced a large amount of jewellery and other handicraft products, with an unusually high number of items made of gold. Many pieces were in serial production here. Key questions on the centre's economic history can be investigated thanks to the numerous coins, both locally minted and imported. Altogether, the archaeological finds clearly reflect the influence of the Frankish and Ottonian Empires, though there are also characteristic items testifying to very distant trading partners, such as the caliphate in what is now the Middle East, and of neighbouring peoples (Slavs and Frisians). Due to the nature of the construction as a mainly earthen embankment, only a few archaeological objects have been found in excavations at the Danevirke, mainly tools such as wooden shovels. However, substantial preserved remains of wooden structures have been revealed, e.g. from the Crooked Wall, the Offshore Work, the Main Wall near the Thyraburg and the North Wall.

The remains of the harbour at Hedeby are under water and can only be explored to a limited extent with special equipment and divers. In the past, the wooden remains of the harbour facilities were also destroyed by winter ice drifts. The wet environment is excellent to preserve organic finds, but disadvantageous for metal. Only a small area of 0.2 ha has been excavated here.

Five rune stones from the tenth and eleventh centuries were found near Hedeby. As written sources, they are an important addition to the rich archaeological finds from Hedeby. With their comparatively long texts, the stones provide the most detailed contemporary information on individual personages from around Hedeby. The original stones are today all in Hedeby Viking Museum and Gottorf Castle, with copies replacing them at their presumed locations in the buffer zone. The inscriptions are in Viking-Age runic writing and are written in Old Norse. The rune stones from Hedeby are the southernmost in Scandinavia, where there are still more than 3,000 existing rune stones. Those found at Hedeby are memorials to fallen warriors who were in close contact with the town's royal rulers. It was the mention of the place name Hedeby which led to the settlement being identified in the nineteenth century. Today, the stones are mostly named after the

names inscribed upon them: the Erik stone, the Skarthi stone, the big Sigtrygg stone, the small Sigtrygg stone and the Schleswig Cathedral stone.

As far back as the Danish historical writings of the twelfth century, the old rampart system is described as danæwirchi and opus Danorum (work of the Danes). To authors such as Saxo Grammaticus, whose work on Danish history Gesta Danorum was written in 1170–1180, it symbolised Danish drive and greatness. From the sixteenth century onwards, the ramparts once again aroused literary and cartographical interest. Yet it was not until the nineteenth century that the Danevirke became the subject of serious and comprehensive accounts and interpretations. Archaeological investigations were carried out when the redoubts were built on the Danevirke in 1861. An archaeological investigation into Hedeby began somewhat later,as the historically attested town of Haidaby/Schleswig had fallen into oblivion after the Middle Ages. Only in 1895 was the Copenhagen archaeologist Sophus Müller able to equate the settlement enclosed by the Semicircular Wall with the place referred to as Haidaby on two neighbouring rune stones. Just a few years later, in 1903, Carl Neergaard and Sophus Müller published the first scientific archaeological work on the Danevirke. A long series of comprehensive excavations on the Danevirke and at Hedeby ensued. However, the identification of Hedeby was only confirmed through the investigations by W. Splieth and F. Knorr which extended over many years between 1900 and 1921. Important results were produced, in particular by the excavations of Günther Haseloff and Herbert Jankuhn at the Danevirke and in Hedeby in the 1930s. The discovery of Hedeby's South Cemetery led to excavations in the 1960s. Also in the 1960s, Kurt Schietzel began large-scale excavations in the settlement area of Hedeby, culminating in the excavation of the port in 1979–80. Further information concerning the construction and dating of the Danevirke was gained through the excavations of Hans H. Andersen and Willi Kramer which were carried out in the 1970s and 1980s. In 2002, geo-magnetic surveys were conducted over a large area within the Semicircular Wall. In the course of this new research project, the finds and findings resulting from previous excavations will also be systematically re-evaluated. The latest investigations comprised the excavation of a few pit-houses in the northwest quarter within the Semicircular Wall in order to obtain evidence comparable with the results of the geo-magnetic and metal-detector surveys carried out inside the Semicircular Wall during the last few years. The construction and the layout of the sites are still complete enough to exhibit their original function. Features made of lasting materials such as earth and stone can generally be seen above ground. Most ramparts of the Danevirke are still visible over most of their length of 26 km, being up to several metres high. Open ditches can still be perceived in many places. The earthen town walls (the Semicircular Wall) of Hedeby are preserved to a height of several metres. All historical building phases and structures important for understanding the property can still be recognised visually or by archaeological methods. The visible structures and archaeological layers still display the original set-up and alignment of the sites as they developed over the centuries. This becomes especially

clear when viewing the results of the geomagnetic survey in Hedeby showing settlement patterns and plot division. The materials of the individual archaeological sites of this nomination rank among the best preserved and scientifically most valuable sources for the Viking Age. The archaeological material and the original substance are largely intact so as to contain all information to the extent necessary for interpreting the function of each site. The original built structures and superstructures of Hedeby were predominantly made of perishable materials such as timber and wattling. Remains of these places are conserved as layers of embedded archaeological material, showing the extent of the perished materials. The storage conditions for archaeological material in Hedeby and the Danevirke are largely characterised by conservation due to water saturation, i.e. perishable materials such as wood and wickerwork and even textiles survive here, enabling light to be shed on Viking-Age building technology and everyday culture. All these structures below ground are well preserved from an archaeological point of view although subject to natural wear and tear. The ditches and ramparts of Hedeby and the Danevirke were mainly built of durable materials such as earth, stone and brick. They have survived the long period without use relatively well. Hedeby has never been resettled and has therefore lain unused since being left by its inhabitants. Therefore, only the most recent archaeological layers are disturbed as a consequence of agricultural land use over the centuries. Although there have been numerous excavations and surveys in Hedeby, only 5% of the area with high archaeological potential has been dug. Large parts of the Danevirke are preserved, though they have been affected by decay and deterioration over the centuries, mainly as they were used for agricultural purposes and as a quarry for bricks, re-employed for house construction. Due to the linear nature of the Danevirke’s elements, excavations have only destroyed small sections of the original substance.

The excellent preservation of organic material in Hedeby and the Danevirke allows us to reconstruct the traditional costumes and wooden artefacts of everyday life in the Viking Age. The thousands of timbers that were found in settlement layers at Hedeby, in substructures and the underwater structures of the Danevirke from a time span of more than 400 years, give us a rare insight into the construction of dams, palisades, ramparts, buildings, causeways, wells, canals, landing stages and ships. The organic remains help to further our understanding of the development of the sites' settlement structure and building sequence, and of the borderland's defences in the Viking Age. Together, the construction timber, the rich find assemblages and the preserved ramparts provide an excellent opportunity for conducting further research in early urbanism, harbours, markets and linear fortifications in Northern Europe. The artefacts unearthed in Hedeby are a major source of knowledge for the nature of trading networks, for mercantile practices in market places, the production of goods, for shipbuilding and burial practices in the Viking Age and for the amalgamation of different religions in the early years of the Christian mission in Northern Europe in the ninth to tenth centuries. Furthermore, the archaeological

remains of Hedeby and the Danevirke provide essential information for interpreting the development of political power in Scandinavia and the power relations between Scandinavia and continental Europe.

Coins were minted in Hedeby in the ninth and again in the tenth century. Even though it is not clear who actually commissioned the minting, this was a privilege that was most likely granted by the king. Several burials in Hedeby are very wealthy with regard to their architecture and grave goods and must therefore also be seen in connection with the elite in Denmark at the time. One really outstanding example is the boat chamber grave just south of Hedeby from the middle of the ninth century, often interpreted as the burial of Harold Klak.

The different segments and phases of the Danevirke feature a great variety of defensive achitecture and consist mostly of ditches in connection with earthworks which were built on wooden substructures or were combined with wooden dams in wetland areas. Retaining walls made of wood, fieldstones and brick were added in many building phases; these are rare features for linear ramparts of the time. The massive fieldstone wall in the Main Wall from the eighth century used clay for additional adhesion and is oustanding in its size and construction. The brick wall in the Main Wall from the twelfth century is among the earliest examples of brick architecture in High Mediaeval Europe and a landmark for the introduction of this technique to Northern Europe. Another really remarkable structure, in the Schlei inlet, is the large eighth-century Offshore Work, which consists in wooden caissons and has no comparison in Northern Europe. All defensive lines were adapted to the local topography, taking advantage of natural boundaries such as river lowlands, lakes and wetland areas in order to enhance their effectiveness. In the ninth century, Hedeby became one of the most important urban trading centres in Northern Europe before 1000. Before and during the Viking Age, settlements in Northern Europe were still predominantly rural, consisting of single farmsteads or small villages. Large permanent trading centres then developed from often temporary marketplaces which had been established at strategically well-situated natural harbours. Hedeby offers the earliest preserved example of a planned town layout in Northern Europe and gives a unique insight into the wooden architecture of towns and harbours in the Viking Age. The maritime trading centre of Hedeby became an excellent showcase for the development of urban structures and for the growth and decline of the emporia in Mediaeval Europe. Places such as Ribe, Birka, Aarhus, Schleswig, Kaupang, Staraja Ladoga, Dublin, York, Dorestad and London originated as trading centres with urban features such as plot divisions within the settlement in the eighth to eleventh centuries but were either abandoned or overbuilt by mediaeval towns.