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### Collected Information for students

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 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.

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.

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 Skarhi stone, the big Sigtrygg stone, the small Sigtrygg stone and the Schleswig Cathedral stone.

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 architecture 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 outstanding 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.

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