4.3 Schleswig-Holstein

4.3 The Schleswig-Holstein Wadden Sea Region

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4.3.1 Landscape and cultural heritage

4.3.1.1 Introduction

The North Sea coast in Schleswig-Holstein has preserved a unique landscape and cultural-historical heritage down to the present day. Scarcely any other region in Europe has seen the transformation of its land so profoundly affect its history. Entire swathes of settled marshlands were inundated in the 14th century and the sea constantly reshaped the coastline up to early modern times. The North Sea coastal area of Schleswig-Holstein comprises many regions: Dithmarschen, Eiderstedt, the North Frisian Wadden Sea with its islands and „Halligen", and the North Frisian mainland marsh. Each of these regions has preserved a rich and varied cultural-historical heritage.

In Dithmarschen the old sea marsh and its village mounds with their churches, marketplaces and harbors have provided focal points for village life since the 12th century. These village mounds date back as much as 2000 years. Mounds like the ones of Wesselburen and Wöhrden with their characteristic churches are visible attractions on the open marsh landscape. In the Middle Ages these villages took part in North Sea trade as part of a maritime cultural landscape. To the east of the sea marsh and its village mounds long rows of settlements ranging across the formerly moor-like flatland marsh were settled by clans and formed into cooperative societies which maintained independence until around 1559. The early marsh to the west of the mediaeval dyke was enlarged by the construction of dykes dating from the 17th century. Straight lines of dykes characterize the landscape here.

There is more frequent variation of landscape in the north of Eiderstedt than is found in Dithmarschen. The visible remains of mediaeval ring dykes with large and small mounds lying scattered about, some with old Haubargen (square, multi-storey buildings) are suggestive of how this area once formed an island-like sea marsh traversed by tidal gullies. The middle section of the peninsula is occupied by elongated rows of settlements consisting of individual farmstead mounds. Old village mounds, which were the center of maritime trade, lie along the Eider river.

As was the case in Eiderstedt, Frisians migrated to the north Frisian Utlande in the 8th century and again in the High Middle Ages, bringing their own culture with them – though there are no historical records providing knowledge of the immigration. The North Frisian Wadden Sea with its islands and the Halligen make for a unique landscape whose natural and cultural histories are closely and fatefully bound to one another. The numerous traces of culture found at the mudflats, mounds, wells, fields and paths are the cultural legacy of a drama played out here in the 14th and 17th centuries, when large sections of inhabited land were covered by sea water. The Halligen, unique along the entire North Sea coast, cropped up as small marsh islands over the mediaeval countryside. It is primarily the dwelling mounds which provide protection from the North Sea to the present day. Life at the sea has best been preserved here and, although influenced by new construction and coastal protection measures, has passed on a unique architectural heritage and architectural treasures.

Fig. 4.29:
Old cisterns constructed from dried bricks of peat or clay, Wadden Sea north of Pellworm
Photo: L. Hermannsen

The island of Sylt – heavily impacted by tourism – still features significant monuments. Stone Age megalith graves, Early Middle Age ring walls and burial grounds preserve the cultural-historical heritage just as much as the numerous dwelling mounds and the farmhouses built upon them. Archaeological finds and cultural treasures show the far-flung maritime routes of the North Sea coastal area, which in the early modern era profited to a considerable degree from

trade with the Netherlands and whaling. Fabulous wealth appears in the Lilienchron poem, which describes the sunken „Rungholt". Myths and literature are essential elements of the cultural heritage, which in the following is organized based on regional groupings of landscape and historical settlement monuments and buildings along Schleswig-Holstein's North Sea coast. A treatment of the Wadden Sea follows. Road construction, the infrastructure for tourism, the construction of wind parks and the industrialisation of the economy has transformed the cultural landscape to a high degree and made it into an agricultural-industrial landscape. In the places where the cultural landscape has been preserved over the centuries, this may also be a consequence of the remoteness of some coastal regions.

4.3.1.2 Nordfriesland

General remarks on topology and landscape history

Across the entire Wadden Sea region along the western and southern coast of the North Sea, no other section of coast features the level of variety as does the North Frisian coast between the Danish border to the north and Heverstrom, the sea channel near Eiderstedt, to the south. Three zones, clearly staggered one behind the other, can be observed today: Viewed from the west, the large geest islands of Sylt and Amrum and outer sand banks of Japsand, Norderoogsand and Süderoogsand lie along a virtually straight north-south line with their sandy beaches facing towards the sea. The island of Föhr, set off to the back, appears to be divided in two: a southern section, similar in composition to Sylt and Amrum, and a northern section bearing resemblance to the marsh islands in the actual mud flats. These 'green islands' enjoy the protective line of the outer sand banks. Their appearance is clearly differentiated: the two large, marsh islands of Pellworm and Nordstrand with dykes – the latter in the meantime having turned into a peninsula due to dyke construction – and the many small, Hallig islands („Halligen") which are fully exposed to the sea. The third zone is the mainland marsh, where a line of outer dykes runs in a relatively straight line between the Hindenburg Dam in the north and Nordstrand in the south, only interrupted by the small „outpost" of Hamburger Hallig.

This impression of a clear structural arrangement, though varied and in the mud flats area finely delineated, is the result of a long historical process, which – when considered from a contemporary perspective – only brought about results of significance over the past five to seven centuries. Human activity played at least as important a role as did natural factors in this most recent development.

The clear staggering of the zones mentioned above makes it easy to overlook the fact that the entire area, i.e. islands, mud flats and mainland marshes, was a unified whole from its earliest formation. Its separation into distinct zones today can be attributed to two counteractive processes: Firstly, a partitioning, which ran its course for thousands of years, sometimes in dramatic thrusts caused by influences from the sea and secondly, a „unification" brought about by land reclamation and protection of this newly-gained land.

The two counteracting processes had varying consequences on these three zones of the north Frisian Wadden Sea area: Expressed in simplified terms, the effects of nature have in recent times „counterbalanced each other" as regards the geest islands and the outer sand banks. The core of these remains of glacial moraines and alluvial sand appear to have remained fairly constant for thousands of years. However, the massive breaks on the beaches and cliff edges of Sylt show that this does not apply universally to the past few centuries. The constant easterly retreat of the undersea edge just off the shore of the mud flat substratum and the slow migration of the visible outer sand banks towards the mainland make it sufficiently clear that we cannot really refer to this as stability per se. Nonetheless, the dune-covered geest cores of the large islands represent the oldest signs of the geology and the history of human settlement in the north Frisian Wadden Sea landscape.

The loss of arable and habitable land in the area of the mud flats with embedded dyked marsh islands and the Hallig islands (nestled in the space between the protected side of the geest islands or outer sand banks and the mainland coast) has clearly prevailed in the course of the past thousand years. The marsh islands and Hallig islands as they appear today are merely vestiges and far smaller deposits of an area of land divided by large and small watercourses yet, for the most part, as a whole was still very much intact as one geographical unit during the first millennium A.D. These areas, embedded like a flat, elongated bowl within a kind of depression between the – not completely closed – barriers

of the present-day outer sand banks and geest islands to the west and the geest edge of the present-day mainland to the east, for the most part consisted of expansive moors until the Early Middle Ages. The marsh of the Early and High Middle Ages was created through sand and silt deposits caused by repeated flooding arising from more and more frequent incursions by the sea. Due to a combination of severe, catastrophic tidal flooding and continuous erosion, these ancient marshes have for the most part become mud flats or, on the islands and Hallig islands, have been covered as newer marshes formed.

The opposite applies to the third zone, the mainland marshes, as this zone owes its existence to eight hundred years of unending efforts to repel the effects of the sea. The mainland marshes were also a part of the divided and increasingly jagged moor and salt meadow areas between the outer sand banks and the mainland geest. Here, large open areas of grassy flatlands were also gradually destroyed by incursions by the sea, creating an immense number of Hallig islands, peninsulas, spits and foreshores. These areas of arable grassland were gradually secured by dykes, joined to one another, drained, the streams and tidal gullies between them dammed, and areas of solid, silt-deposited mud flats merging to become an extension of the mainland. The North Frisian mainland marsh thus consists of a mosaic of large and small areas of differing age which forms – if you will – a man-made portion of landscape, and a sharp eye can quite easily read the moving story of this unified area of settlement by observing the features of the landscape.

The differing features of the three present-day zones – the geest islands and outer sand banks, mud flats with marsh islands and Hallig islands and mainland marshes – call for treatment in separate sections. The story of how these areas relinquished their unified appearance, the process of division, destruction and being partially joined together by man, also constitutes a part of the region's cultural and landscape heritage.

The Geest islands

The three large geest islands of Sylt, Amrum and Föhr are composed of three main elements, each of which can be easily distinguished: stretches of sand and dunes on the sea side (on Sylt and Amrum these areas sometimes form points resembling spits of land), sandy upland soil much of which was originally covered with heath and small, sometimes larger low-lying areas of marshland facing the mud flats. The extent of these marshland areas on Amrum is quite small and limited to the silt-covered land on the far sides of the „hook-shaped" spits protruding into the mud flats in the northern and southern parts of the island. On Sylt, somewhat larger marshland areas have survived in the middle of the island under the protection of the tongue-shaped sand core stretching to the east. For this reason, marshland villages can be found on Sylt. Nonetheless, marshes are actually more characteristic of the scenery on Föhr. An old marsh protected by dykes covers well over half the island and was, until only very recently, virtually uninhabited and cultivated by people from the villages lying on the geest edge.

On Amrum, the sand on the sea side takes on enormous dimensions. However, only a relatively narrow strip lying before the dunes actually belongs to the moraine core of the island. It was only within the last 150 years that most of the sand making up the area known as the „Kniepsand" was first deposited by the wind and sea into areas resembling spits and then integrated into the island's main body of sand. On Föhr, the sand core is limited to a very narrow, crumbling strip which is constantly worn away by the sea, revealing erratic blocks left over from the Ice Age. And finally, on Sylt, there are raised portions of moraine sand forming cliffs which are constantly being worn away by the sea. As a result of severe tidal floods, the geest core has been weakened to such an extent that the entire island is in danger of being cut in two. By creating extensive offshore sand washes and reinforcing the banks it is hoped to protect what still remains.

As can be seen, the three islands are quite different from one another not only in terms of their geographical form, but also in their „composition" and the resulting visual effect. Recent changes brought about by man with regard to vegetation, cultivation and, above all, construction have only served to accentuate these differences.

On Amrum, for example, a wooded area adjoins an exceptionally wide belt of dunes. This stretch of forest was planted after 1880 on areas of heath as a result of a forestation program initiated by the Prussian government and, since then, has had a considerable effect on the appearance of the entire island. The „desolate" appearance of the island which was to be seen well over one hundred years ago has changed considerably since that time. The former large

expanses of heath beyond the dunes, the meagre cultivation of the sandy soil in the east, and the villages (except for the village of Norddorf assailed by the dunes) cowering on the eastern edge of the geest core have long since parted. Cultivation of the land, which has long allowed a relatively high yield to be extracted from the geest soil by means of artificial fertilization, has only played a minor part in these changes. On Amrum, several stages of land reform and land allocation have slowly led to „modernization" of the property and cultivation structure characterized by the division of inherited land into smaller lots.

Forestation efforts on Sylt and Föhr have not played as important a role. In essence, the very narrow shape of Sylt exhibits the same structure as can be found on the island of Amrum, i.e. a moraine core with sections of steep cliffs facing the sea and chains of dunes covering the surface, lightly rolling sandy soil with regions used for cultivation and areas of heath which were originally quite large, and a small adjoining area of marshland. Despite these similarities, these elements are much more sensitive to human intervention due to the lack of space on the island. On Föhr, the development of dunes is quite limited. The specific composition of the island gives an idea of what the structure of settlement in the Wadden Sea area may have initially looked like after the development of sprawling marshland areas. Settlements were concentrated on the geest, especially on the edges of the geest bordering the marsh. The low meadowland, which was in constant danger of being flooded, was cultivated from homesteads located on higher ground.

The Föhr marsh was more than likely a part of the large expanse of continuous salt meadowland which, well into the High Middle Ages, stretched from the geest cores and sand embankments on the sea side all the way to the edge of the mainland geest. According to reports dating back to the 12th and 13th centuries, it was still possible to get from Eiderstedt to Föhr and Sylt without „getting your feet wet".

Up until the late 19th century, the organization and structure of the landscape on the geest islands was only to a very small extent influenced by human intervention and building efforts which included, for example, dyke construction around the Föhr and Sylt marshes. The historical development of settlements was also to a great extent dependent on the forces of nature well into the 19th century. The relocation of ports on Amrum and frequent moving of entire villages on Sylt and Amrum to escape the sand of encroaching dune formations attest to this fact.

Today, the geest islands are feeling the serious effects of the growing tourist industry. On Amrum the health resort Wittdün, located on the southern tip of the island, was literally stamped out of the earth in a remarkably short time at the end of the 19th century. Villages on Amrum have been careful to preserve their historical stock of buildings, above all the brick houses with thatched roofs from the „golden era" during which many men made their fortunes as sailors in the service of others. Nonetheless, in recent decades „renovation efforts" designed to attract tourists, further construction to fill the remaining gaps and now areas of new development which have been greatly expanded, especially near Nebel, have all completely transformed the appearance and character of these villages.

On Sylt, the characteristic scenery of the area has been affected considerably by the construction of buildings on large portions of the heath and in dune areas due to the development of tourism since the beginning of the 20th century, and in particular, since the sixties. Massive construction projects affecting the infrastructure, for example a train station, airport, streets, parking lots, camp grounds and, especially in the dune areas, a network of paths which in places are quite closely meshed, have all led to a complete transformation of Sylt, leaving the island with the appearance of a well-equipped resort area.

Except for the northern part of the island, the dune belt and the proportionally small areas of land cultivation, the increase in the amount of construction has, for the most part, done nothing but reduce the former open spaces to mere empty gaps between buildings. Natural elements of the landscape dominate only in the north, in the area between Kampen and List and in the List nature reserve, and in the south near Hörnum. The village of Keitum, located on the side of the sand core which begins to give way to the tidal flats, has been able to preserve the essential elements of an old Sylt village. Nonetheless, the village has been „refurbished" to such an extent that the historical constructions no longer seem authentic.

On Amrum, it is still possible to recognize the historical settlement structure typical of all the geest islands, i.e. the relatively widely-spaced villages arranged in clusters or in a linear pattern

on areas of the geest as well as a few individual buildings, especially on the side facing the mud flats. On Sylt, however, this historical settlement structure today only exists in well-protected areas such as Keitum, Archsum, Morsum and, in part, Munkmarsch.

Among the many villages on Föhr, most resemble the geest villages of Sylt and Amrum with respect to their historical settlement structure. Nonetheless, the settlements located directly on the edge of the geest bordering the marsh are laid out following a pattern best exemplified by Wrixum. Between the main arterial road running along the edge of the geest and a second parallel road leading through the main body of the geest, narrow plots of land are arranged parallel to each other. These conditions all favoured the development of the Frisian longhouse, a type of building characteristic of these villages which takes on a hook-formed shape („a five") through the addition of annexes needed for farming.

The original structure of some of the villages on Föhr, such as Oevenum, Midlum, Toftum, Klintum and Oldsum, has been well preserved to the present day. Nieblum, which was strongly influenced by the „Frisian houses" of well-to-do captains and sailors of the 18th century, was already protected at the beginning of the 20th century as a result of preservation efforts. Only in the last three decades have the effects of the development of tourism become evident.

This development has transformed the main village of Wyk, which was initially characterized by the most important port on the island, into a small town which has recently become quite modern in its appearance. Nonetheless, the older parts of Wyk still preserve much of the characteristic appearance of a 19th century seaside resort. Established in 1819, Wyk is one of the oldest beach resorts in Germany. The development of tourism, especially in the last fifty years, has not only drastically transformed the village of Utersum in the east of the island and parts of Nieblum, but the villages of Boldixum and Wrixum adjoining Wyk as well. The policy of land allocation in the sixties was also an important factor leading to these changes.

Relocation of numerous farms from the cramped villages into the Föhr marsh has allowed for more efficient and improved cultivation of the land. However, in doing so, this relocation has not only radically changed the appearance of the island marsh, which up to this point had been occupied by only a few individual farmsteads, but also necessitated measures in the villages themselves to account for changes in building use, often leading to the replacement of historical structures. Despite administrative efforts to control development, in numerous villages these market forces have brought about an ever increasing disintegration of their tightly-knit, impressive character still present in the years after the war.

In all probability, the Föhr marsh was not protected sufficiently by dykes until the 15th/16th century. This fact would explain the presence of a drainage and road system which more closely resembles grid-like construction carried out in the modern era than the irregular outlines of the land from the Early and High Middle Ages.

Evidence of previous settlement and land cultivation on the geest islands can still be seen by careful observation. The geest cores, in particular those located on Amrum and Sylt, possess numerous more or less well-preserved stone tombs, burial mounds and burial and urn areas dating from the Stone Age up to the Bronze Age. In addition, it is possible to find burial areas and traces of settlement dating back to the Viking Age. In some cases, historical landmarks characterize much of the scenery. An example of this can be seen in the circular ramparts of Tinnumburg on Sylt or those of Lembecksburg on Föhr (the circular ramparts, which can also be found in other places along the west coast, are defence constructions dating back to the Early Middle Ages). Other landmarks are so well-preserved or have been restored to such an extent that they now belong to the group of „cultural landmarks" intended to attract tourists to the area. On Sylt and Amrum, the remains of settlements from various periods in history, from the Early Stone Age up to the Early Middle Ages, lie hidden under the dunes and are occasionally revealed by the blowing winds. Based on numerous archaeological findings, it has been possible to establish with a measure of certainty that the geest islands have been continuously occupied for thousands of years. Moreover, it is safe to assume that there were high levels of trade and migration, especially into the southern Scandinavian area but also on distant shores, and that farming played an important role in addition to seafaring and fishing. However, in contrast to the amount of evidence preserved in the older marshes, it seems that traces of settlements and cultivation dating back to the High Middle Ages and early modern era have not survived to the present day.

The „Hallig" islands

The marsh islands in the North Frisian Wadden Sea with no defense against the sea are remnants of a type of landscape which has been a distinctive feature over the centuries along this coastline. The impression they still faintly make today was already being referred to by ancient chronicles of the West and East Frisian regions.

The process of an ongoing erosion of the land which was sped up by repetitive storm surges over the past 700 to 800 years can be testified to both by cartographical records and archaeological finds. Traces of settlements located on the mud flats and which intermittently surface due to the tide-induced shifting of sedimentation demonstrate to an astounding degree that today's Hallig islands are for the most part the remnants of more recent deposits above older marsh soil. Archaeological research and evidence gathered at excavations have proven that the once marshy land between the Hallig islands – which today has become tidal mud flats – had undergone intensive use starting in the 10th/11th centuries. In various parts of the mud flats, signs have been discovered indicating the construction of dykes, drainage systems, single-dwelling and village mounds with their water supply facilities as well as the traces of paths and roads. These traces have been found in layers dating from different periods – the Early Middle Ages when the first settlements were established up to relicts of the modern era's cultural landscape, in particular those from the ravages of the storm surge of 1634.

Various forms of agricultural cultivation have been proven – including wide-scale farming, systematic peat mining and in particular, the production of salt. The three characteristic forms of settlement on the marsh have been established to be: Scattered single-dwelling mounds and mound villages of a circular or elongated shape, linear settlements along dykes and pathways, accumulations of smaller and larger mound dwellings as „communities". The structural significance of churches, frequently placed atop high mounds, can also be established for the cultural landscapes of the past at some sites. Making the church accessible from the outlying marsh and the many tidal gullies and water courses dividing it was a prime factor in the organization of daily life. There is documentary evidence that the ongoing „sub-division" of land areas resulted in the demolition or removal of churches to other locations or the redefinition of communal or parish boundaries.

The Hallig islands that remain are of a relatively uniform appearance today despite their varying evolution and geomorphologic characteristics: Scattered dwelling mounds and pastures which scarcely remain above water at high tide and are used only for grazing – if at all. The image passed down from antique history of houses appearing to float as though they were „ships at sea" becomes even more eye-catching during periods of tidal flooding when the entire island surface is covered with water.

Important characteristics of the conventional evolution of the Hallig islands have been obliterated or covered over by dyking efforts to stave off the sea. Since the late 19th century, most of the shoreline has been secured by a layer of rocks or by paved surfaces, thereby forever removing the typical island border on which swollen layers of deposits from tidal flooding were exposed to view. The larger Hallig islands have had low-level „summer dykes" erected on them as a defense against frequent tidal flooding and most dwelling mounds are fortified by ring dykes or berms. This partly conceals the building structures which has a considerable effect on the visual impact of the islands. These measures were instituted after the 1962 flood-tide, a milestone event which clearly marks the end of the „old Halligen culture" as it had been known up to that time. Most historical dwellings on the Hallig islands were either completely remodeled or replaced, lending the historical traits of buildings that now stand on the islands clear signs of the most recent architectural styles.

In its overall effect, however, the Hallig islands represent a singular monument to one type of landscape within the panoply of the Wadden Sea which otherwise have long since disappeared. The increasing impact of tourism combined with the almost complete neglect of native agricultural farming does not bode well for the future of the Hallig islands and to which conservancy programmes provide no alternative. Efforts to preserve and extend the life of the existing island habit therefore appear to be inevitable and are becoming more firmly established through such organizations as the Hallig Foundation.

The marsh islands

The two large dyked marsh islands of Pellworm and Nordstrand encompass fragments of the former island Strand, which once covered an area of more than 20,000 hectares. This island was

almost totally inundated in the frightful flood tide of 1634. More than two-thirds of the population drowned and most houses and churches were destroyed or so severely damaged that they had to be abandoned.

The exceptionally fertile and rich island of Strand had already been substantially reduced in size by the earlier expansion of the marshland. Above all the inundation of 1362 (the so-called „Manndränke") had turned large parts of the Rungholt region in the south into mud flats. The history of dyke building on Strand and then Pellworm and Nordstrand is one of the most eventful and revealing stories of using, securing, losing and regaining profitable marshland in the Wadden Sea region. On Pellworm and Nordstrand, nowadays secure, the processes involved can still be reconstructed from historical features of the landscape.

The Pellworm parish (Harde) was one of the three administrative districts of the island Strand. In 1634 it lost its entire land area, with the exception of parts of the western dyked areas. By 1687 large polders had been reclaimed through the building of dykes. In the following centuries further dyke building led to a step-by-step increase in the size of the island.

As a result of these historical developments Pellworm now makes an overall impression of being a unitary marshland environment with many internal dykes. However, the characteristics of the individual polders are visibly different. The oldest areas lie in the west, where the most distinctive feature of land is the irregular structure of the old marshes. The newer polders show the effects of planned land reclamation and division, culminating in the northern Bupherverkoog polder, which was enclosed by a dyke in 1938/39 and shows the typical characteristics of the formalistic dyke-construction policy of the Nazi period.

In the older sections of Pellworm the structure of settlement is characterized by the contrast of large, widely separated single-farmstead mounds and linear patterns of building along the inner dykes or on their crests. There are no centers of inhabitation worth mentioning. In the east, adjoining the old harbor – which in the meantime has been partly replaced by an offshore ferry harbor that is linked to it by a mole – a small centre of settlement organized around tourism with communal institutions and areas of new building development, has developed in Tammensiel and Ostersiel. The modernization of farming activities has, on Pellworm as everywhere, in part significantly altered the appearance of built-up areas as well as a number of stretches of land.

Due to the formation of the Beltringharder Koog through the building of dykes, Nordstrand has in the meantime become a peninsula. The land areas of the new polder, almost without exception as a result of environmental protection regulations, display a landscape that is unusual in the Wadden Sea area and is otherwise only found in the Hauke-Haien-Koog near Bongsiel: extensive areas of water on the inside of the dyke, extended reed beds and apparently „wild", only sparsely grazed meadow land.

Even more than Pellworm, Nordstrand's pre-flood features reveal the impact of the planned redyking that was carried out in the 17th and 18th centuries. A bird's eye view of the old polder, which survived the floods of 1634, still reveals the form of an island. However, the entire eastern side of the island is marked by straight-line dyke courses, streets, and water drainage systems. As a result, only in the eastern polders the older patterns of settlement are still to be found – characterized by a few individual mound settlements and the more frequent rows of settlements along the inner dykes. The catastrophic effects of the floods of 1634 can still be seen from the remaining buildings: The church of Odenbüll was the only one to survive the catastrophe, and a number of major buildings from the 17th and early 18th centuries provide evidence of the step-by-step rebuilding of dykes and resettlement, which was strongly influenced by the Dutch.

Mainland marshes

The North Frisian mainland marshes between the Danish border in the north and the geest spit of Hattstedt-Schobüll-Husum, which projects to the mud flats in the south, can be divided – in simplified terms – into two sections: the wide area north of Langenhorn and Bordelum, which from the air displays a very irregular structure with a number of different elements, and the narrower southern part, which is characterized by a strip of long narrow polders arranged parallel to the coast, and only with the Hattstedt Marsh in the south ends with irregular forms again.

In the northern part, deep bights mean that the geest edge is a long way from the coast in some places, so that the marshes along the courses of the Wiedau/Süderau and the Soholm meadowlands penetrate more than 20 or 15 km

respectively inland, whereas they are only 12 km wide in the vicinity of Uphusum and only about 5 km near Langenhorn. The very active history of the securing of individual stretches of land through dykes, their linking up and the increase in the land area through systematic secondary dyking is still clearly visible until today through the characteristics of the individual sections of the North Frisian mainland marshes.

Wiedingharde (Wieding parish)

The old administrative district of Wiedingharde (previously Horsbüllharde) has in wide areas retained the appearance of an „amphibian landscape" (Theodor Möller) the longest: until the extensive drainage projects of the 1920s, wide areas regularly lay under water during the „wet periods". The farmsteads in the entire eastern section of the parish – the over 10,000 hectare large Gotteskoog polder between Neukirchen and Uphusum or Aventoft and Niebüll – were not only referred to as „Halligen" (Großhallig, Vogelhallig, Hattersbüllhallig and so on), but de facto they really were inland islands. Despite the fact that the links of these islands to the open sea had already been cut off in the 16th century by the building of dykes, they were so low-lying that it was impossible to make the land that had been reclaimed completely secure in an exacting process of dyke-building involving heavy losses. The large Bundesgaard or Gotteskoog Lake even had Hallig islands in their middle which had an island character all year round.

While in the east a marsh landscape stretched along the geest edge until into the 20th century that was similar to the marsh regions throughout North Frisia during the Early Middle Ages, the western part of the parish consisted of a marshy island, the old Wiedinghard Koog, which was finally dyked from all sides in 1465. This island, the old Horsbüll parish, itself constituted the remains of larger marsh areas of which - above all in the northwest – whole parishes had been lost up until 1400. The oblong shape of the island running in a north-south direction is easily recognizable on maps, and the course of the old enclosing sea dyke on which a road now runs – except in the western part – marks off quite distinctly the difference between the old marsh of the island, with its relatively early dykes, and the areas in the Gotteskoog polder that were enclosed much later.

The dyked island of Horsbüllharde arose out of island or Hallig mounds in the marshes: The large mound villages of Emmelsbüll, Horsbüll and Klanxbüll, as well as the scarcely smaller settlements of for instance Toftum, Großbombüll, Nordhörn, Hesbüll and many others, are built on former Hallig mounds. In some cases it can be shown that the first settlement occurred during Roman times (Toftum, Horsbüll). The former Horsbüllharde thus belongs to the small number of ancient marsh settlements that still remain in North Frisia; its modern form – with a few mound villages, a large number of smaller and larger individual farmsteads and a network of internal dykes – dates from the High Middle Ages or the early modern era.

In the northern part of the Gotteskoog polder the landscape is similar. However, the courses of the network of earlier sea dykes that in some places form a very fine mesh show how difficult it was to dam the various channels, which ran between a large number of marsh islands and connected the mud flats and the salt marsh area of the present-day Gotteskoog polder with the open sea. As a result, a few of the farmsteads on the old island mounds in this region show traces of harbor construction.

All in all, however, the present-day character of the Gotteskoog polder is determined by the extensive drainage and development measures of the 1920s and 1930s. Large, straight sluices and equally straight roads divide the surface area. The farm settlements dating from the Nazi period that are systematically placed along the connecting roads dominate broad stretches of the polder, which in its eastern and southern sections seems less developed in comparison with the northern „Halligland" (marsh island region), and displays the monotonous uniformity of the planned, modernized agricultural industry. The afforested areas which – as in the case of Aventoft and Kahlebüll Lake – were planted on land not suitable for agriculture, make a particularly alienating impression.

The cultivation of the Gotteskoog polder continued until the 1960s. In the course of the „Programme North" the drainage and dyke-building measures (among others the Gotteskoogdeich between Emmelsbüll and Niebüll) were pushed ahead, land improvement measures intensified and above all the remaining inland lake areas drastically reduced. In the 1980s, measures aimed at returning the land to its natural state reversed the land reclamation process, so that today large swamp areas and expanses of water, above all the Gotteskoog Lake, are once again the elements that shape the character of the landscape.

However, the Wiedingharde has also experienced striking changes in the west in the direction of the Wadden Sea. The very narrow fore dykes of the new Wiedingharder Koog still belong to the laborious security measures of the western rim of the old parish. However, the Friedrich-Wilhelm-Lübke-Koog, which was enclosed in dykes in 1954, displays the square pattern of a „modern" land reclamation measure – it was the last large-scale measure of this kind in North Frisia. The polder, with its completely „unnatural" geographical structure, gives the impression of being shut in between the old and the new sea dykes. Since 1982 the most striking contrast to this is the adjoining Rickelsbüller Koog north of the Hindenburg Dam, which is exclusively maintained as a conservation area with large expanses of water between the dykes.

In recent decades, modernization measures of various kinds have also strongly influenced parts of the Wiedingharde. These range from new housing developments that have significantly altered the landscape, above all in Klanxbüll, Rodenäs and Neukirchen, to new buildings that do not harmonize with historical structures any more. The frequently intrusive modernisations of old buildings, not confined to those used for agricultural purposes, have a similar effect, and have in some places truly altered the form of, for instance, the traditional linear settlements along the old lines of dykes. The clustered groups of wind-powered electricity generators also produce a completely altered landscape. The chains of middle-sized machines in the Lübke-Koog almost give the impression of a single industrial plant, while significant parts of the old landscape also offer a completely altered picture as a result of the new, dominant technological scene, as for instance in the Toftum-Südwesthörn area.

Bökingharde (Böking parish)

The land areas of the Bökingharde, south of the Gotteskoogdeich, are also in great part the result of the linking of old Hallig mounds through dyke construction and the reclamation of further stretches of land that had been destroyed by the sea in the Middle Ages. However, the Bökingharde possesses a „stable core" of a special kind: South of Niebüll the almost circular Kornkoog is a cultivated high moor from the Early Middle Ages on a flat geest island which during the Late Middle Ages was temporarily surrounded by incursions of the North Sea and had to be protected by the building of dykes. Until farming began the island was known as Risummoor and the line of villages on its edge almost forms a closed circle. This remarkable landscape monument is cut through by a railway line and a highway, and as a result of the development of Niebüll into a small city has experienced such a striking imbalance that the impression of a unitary island is now hardly recognizable any more.

Of the many island mounds around Risummoor and the mainland geest after the disastrous floods of the Late Middle Ages – remnants of the broad moorland and marsh areas between the seaward barriers and the geest edge – three larger ones have been integrated into the mainland marshes since the 15th century: Galmsbüll, Dagebüll and Fahretoft. The old polders of Dagebüll and Fahretoft still today clearly display their origins as Hallig islands, with mounds on which small houses stand packed close together in some places. On other mounds larger individual farmsteads have taken the place of small-scale building. A significant number of other old island mounds such as Bollhaus, Schweinehallig, Trollebüll or Süderweygaard, which into the 1970s had changed little, are located in the polders which underwent dyking on a continual basis.

To these prominent elements of the former Hallig island structure of extensive areas must be added the characteristic pattern of linear settlements on the former sea dykes, which in the course of reclaiming the land became internal dykes. Most striking is the „Holländerdeich" running through Fahretoft, which was constructed during the extensive damming of the Bottschlott Channel. Extensively modernized cottages and small longhouses now stretch for kilometres on it. The building structure on the neighbouring Gotteskoogdeich in the north, on the Mitteldeich or the Kaiserkoogsdeich is less homogeneous.

The third defining component of the landscape in the Bökingharde – and occupying the largest area – are the large polders which have been built since 1465 in order to reclaim land which had been occupied by the sea. To the east, beginning with the Klixbüller Koog and the Große Kohldammer Koog, which converted the Risummoor to dry land again, numerous dykes were built, at times in rapid succession. These were the most successful land reclamation measures of the late 17th and early 18th centuries. The land areas of the old and the new Christian-Albrechts-Koog as well as the Kleiseerkoog, which became arable as a result, belonged to the most fertile marshlands of all. The geography of these polders is determined by the systematic land development (roads, paths, drainage sys-

tems) and the substantial individual farms on the flat mounds, most of which originally occupied three or four sides of a square and almost had the character of the estates of a ruling class. Today, many of them have lost their original function and some are partly in ruins or have been reduced in size through demolition of buildings. However, the wooded mounds still divide up the farmed areas lying around them that are otherwise as flat as a board and in some places have been consolidated into gigantic industrialized landscapes. The impression made by these polders forms a stark contrast to that made by the old „Halligland".

With the Marienkoog the series of dyke enclosures was completed in 1798 and a fairly straight line of dykes established between the old Horsbüllharde and Dagebüll or Fahretoft, until the ideologically driven land reclamation policy of the National Socialists led to construction of two new polders closer to the sea (Neu-Galmsbüller Koog and Osewoldter Koog). The characteristic pattern of their development and settlement structure, as well as the sentimentally patriotic architecture of the buildings, distinguish these clearly from the older polders.

Due to new housing developments and construction of industrial areas, erection of large public buildings and the build-up of the necessary infrastructure, especially transport, the central town of the parish, Niebüll, which had been thoroughly „restored" and modernized in an urban style in the 1980s, has largely lost its links to the historical character of the surrounding landscape. Remains of old buildings still worthy of mention are only to be found in Deezbüll, which had been incorporated into the parish and until after the Second World War retained the character of an intact „Frisian village".

The ferry harbour Dagebüll and Niebüll, connected through a railway line, form an „axis" of modern touristic infrastructure. Dagebüll Harbour has in the meantime developed into a more and more completely planned service centre for the ferry traffic to the islands and the Hallig islands. The extended building activity and connection to the transport network, together with the loss of characteristic old buildings, now completely hide the fact that it is situated on the seaward tip of an old Hallig island. This is only made evident by the dwelling mounds lying further inland and away from the built-up roads.

Inland of Fahretoft and Ockholm the Hauke-Hayen-Koog was enclosed in 1959 to further straighten the dyke line. This polder is only partly used for agriculture and contains a major inner-dyke biotope in its large rainwater reservoir. For centuries drainage via the large „Bongsieler Kanal" was the most important regulator of water levels for the entire parish. The point where this canal terminates and flows into a wide tidal gully can be counted among the most „picturesque" tableaus of the North Frisian coast. Today the new sea dyke, with a road on the inner side and a pumping station at Schlüttsiel – at the same time serving as the harbor for ship traffic to the Hallig islands – offers a remarkable contrast to the wide, „natural" expanses of water and reed beds of the rainwater reservoirs.

Karrharde, Norderharde and Südergoesharde

The three old parishes of Karrharde, Norderharde and Südergoesharde show a less varied structure of their marsh regions than the Wiedingharde or the Bökingharde. They mostly consist of geest – in particular the Goeshardes have only a relatively narrow belt of long polders on the geest edge. In the northern section in the lowland meadows of Soholm, the marshy areas push quite far into the interior. Ockholm stands as the western „outpost" of an old Hallig island in the dyked areas. However, from the Ockholmer Koog southwards to the Hattstedt polders the marshes show a comparatively uniform structure: In the Late Middle Ages the geest edge was also the coast of the Wadden Sea almost everywhere, but from the 15th century the coastline was moved westward step by step through the enclosure of the foreshore within dykes – which in this area was also settled and farmed land. In the Bredstedt Bight long narrow polders running in an almost north-south line were built in the 18th century. These were the indirect result of a failed attempt in the 17th century to enclose the Bredstedt Bight between Ockholm and the Hattstedt Marsh within a single dyke. The stages of the gradual enclosure by dykes were completed with the Sönke-Nissen-Koog (1923-25). Its strikingly „modern" structure not only differs from the admittedly systematic but nonetheless small-scale system of land division in the older polders, but in addition displays the land reclamation efforts of the National-Socialist period through its use of the main road as a central axis and the row of individual properties stretched along it. The buildings in the Sönke-Nissen-Koog represent what was really the only attempt to impose a uniform, at the time contemporary, architectural style on an entire housing development in

the marshes. The exceptionally fertile polders along the Bredstedt Geest have only a few large farmsteads – in the older polders many of the historically significant buildings have disappeared or been drastically altered. Due to the very sparse population, the systematic nature of the land development and in some parts the very large fields, the polders of the Hattstedt Bight present the picture of gigantic, well-nigh monotonous agricultural areas between the lines of the dykes.

Today the impression has changed radically due to the rows of wind farms running parallel to the dyke line. They represent a sudden „surge of modernization" that is in stark contrast to the traditional characteristics of the marsh landscape's visual picture – the absolute domination of horizontal lines and the radical „openness" of what seem to be endless open spaces. This is a particular challenge in the case of the polders of the Bredstedt Bight, because the unusual height of parts of the geest edge (north of Bredstedt, where the Stollberg is 44 m high) offers a unique view over the marshes as far as the Wadden Sea.

Along the geest edge the marsh is practically uninhabited. The village of Langenhorn, which stretches kilometres along the road, shows most clearly the cultivation of narrow strips of land stretching from the geest edge. We can assume that a similar basic structure prevailed from the earliest phases of use of the open marsh and salt meadow areas and, as a result, it is not surprising that the geests of the three parishes have yielded numerous archaeological finds from prehistoric and early times.

A peculiarity of the Nordergoesharde are the two Hallig islands of Nordstrandischmoor and Hamburger Hallig which are linked to the mainland by connecting dams. Both are remains of the island Strand which was destroyed in 1634. Other Hallig islands in this region have either disappeared or been integrated into the mainland through the building of dykes.

Hattstedt Marsh, located south of the Bredstedt Bight, also features the remains of old Hallig island settlements in the closely divided polders in the west. But in the east it is also characterized by broad unsettled areas that are cultivated by farming communities on the geest. Since 1987 the newly enclosed Beltringharder Koog stretches along the sea dyke of the Hattstedt Marsh and turns Nordstrand into a peninsula. It is mainly a natural preserve, with large rainwater reservoirs serving as biotopes.

Near Hattstedt the geest projects into the mud flats in the form of a moraine spit. This means that, after the dunes of St. Peter-Ording have been secured through dykes, parts of Schobüll represent the only remaining dyke-free section of the North Sea coast. As a result of afforestation programmes in the once-dominant heath areas, the forest has here advanced right up to the coastal areas. Its unique location has entailed building measures on a large scale in Schobüll, which completely hides the characteristics of the old town. By now, the buildings of Schobüll constitute an almost closed line to the suburbs of Husum. The old marsh village of Hockensbüll and the Porren Koog before it already belong to the outskirts of the city. Schobüll also shows evidence of prehistoric and early settlement. During the dredging of Husum Harbour – as is emphasized again and again – the remains of a rib from the hull of the oldest boat ever known (about 8000 B.C.) were found.

Settlement of the Wadden Sea region by man is thus of enormous historical significance. But it is the North Frisian section of the Wadden Sea region which shows through its unique structure and contemporary landscape conditions how the extraordinarily changing, in part extremely localized, very varied interaction between „natural factors" and human activities has created a cultural and geographic system in which disparate elements have grown together and the resulting combinations contain complex patterns of destruction and separation.

4.3.1.3 The Wadden Sea of Nordfriesland

When flying over the Wadden Sea area of North Frisia at low tide, traces of earlier land cultivation, farming and settlements can be seen on the eroded banks of tidal gullies lining the mudflats or in areas where the mudflat substratum has been worn away by the flow of water. The remains of ditches used for drainage and soil improvement are the most common traces which appear. However, it is also possible to find the remains of roads and dykes, mound bases, wells and cisterns constructed from dried bricks of peat or clay, pits and stakes used for various purposes as well as areas used for the mining of peat for fuel and salt.

Walking out onto the mudflats, it is possible to date some of these structures, known locally as „Kulturspuren" (traces left by cultural development), with the help of archaeological evidence. In this way, it is possible to reconstruct the

course of earlier land development and settlement and to outline the general contours of the development of land cultivation in space and time. Archaeological and geographical research has shed light on the complicated interplay between human manipulation of the environment, a rising sea level, and the increasing frequency and severity of tidal flooding. At the same time, interdisciplinary cooperation has shown that the morphological development of this coastal landscape cannot be fully understood without knowledge of the composition of the geological subsoil and, in particular, the consistency and strength of the Holocene sediments.

Fig. 4.30:
Old cisterns in the Wadden Sea of Nordfriesland
Photo: L. Hermannsen

According to the information currently available, the history of settlement in the coastal marshland seems to have taken the following course:

Numeros individual findings from the Early Stone Age and Early Bronze Age suggest that around 4000 years ago the area of today's islands and Halligen had already become a place of intense traffic and was probably even settled at that time. However, the land was never occupied for extended periods due to the increasing water levels which made settlement of the area difficult and prolonged stays undesirable.

It was only after the geest islands had been recolonized by Frisian settlers that settlement of selected marshland areas also began in the 8th century A.D. The regions of choice included the area around Pellworm-Hooge, the Föhrer marsh as well as today's northern mainland marsh located between Horsbüll and Emmelsbüll. Favorable environmental conditions initially allowed settlement on flat ground. It was only in the High Middle Ages that construction of dwelling mounds and dykes became necessary due to the increasing influence of the sea. These protective measures also enabled lower-lying areas to be settled and led to the expansion of settlement and cultivation of the coastal marshland in the Late Middle Ages.

Beginning in the 14th century, things began to change dramatically, in particular due to a severe tidal storm, known as the „grote Mandränke", which occurred in 1362. Severe tidal flooding in the Late Middle Ages and in the early modern era engulfed the entire Rungholt area as well as a large portion of the settled and cultivated marshland. In this way, the settled and cultivated area was re-transformed into the very mudflats from which it had arisen.

Numeros findings and artifacts as well as a wealth of historical sources recording the history of this amphibious environment and its settlement have been preserved to this day. Nonetheless, nothing in this area can survive unchanged. Erosion and sedimentation processes bring about continual change which, at the same time, both aids and hinders the documentation effort. In general, experience gathered in recent decades has shown that destruction of these cultural signs, or „Kulturspuren", in the Wadden Sea Area continues to advance and that there is indeed reason to make immediate use of these cultural signs for research into the history of the land and its settlement before they disappear forever.

4.3.1.4 Eiderstedt

The Eiderstedt peninsula, approximately 30 kilometers long and 15 kilometers wide, borders the North Frisian Wadden Sea to the north and the estuary of the Eider river with the adjoining Dithmarschen coastal area to the south. To the east, the peninsula's marshes extend to the edge of the geest near Husum. An elongated sand embankment, broken by the incursion of the Süderhever tidal gully, extends across the west of the peninsula. The churches of Garding and Tating, visible from a long distance, are located here.

Tall ridges of sand also extend northwest of Tating at Tholedorf. Another sand embankment runs in a north-south direction in the area of Witzwort. This embankment originally extended further to the north, but was carried away as a result of tidal storm flooding in the Late Middle Ages. These different sand embankments, existing no earlier than 3100 years before now and frequented since the Stone Age (Harck 1980,

Austen 1992) facilitated the draining of the marshes. High embankments formed (Meier 2001) along the Eider, which at that time had a smaller estuary and followed a more winding course as it flowed into the North Sea. Since 500 B.C. moors have developed in the area north of the Tating-Garding sand embankment as a consequence of insufficient natural drainage. After the advancing sea had to an increasing degree broken down the system of sand spits and geest formations, which acted as barriers, in the south-west area of the present-day North Frisian Wadden Sea, the moor areas in the north of Eiderstedt were inundated and covered with sediment (Meier et al, 1989). At the turn of the 1st century A.D. low marshes formed, dissecting the numeros systems of tidal gullies into little islands. The advance of the Süderhever to the north, by no means a catastrophic event, breached the elongated sand embankment between Garding and Tating, allowing the Fallstief channel to encroach from the west to form a connection to the Hever. This is how the structure of the peninsula landscape as we know it today came into being, comprising three „Harden" (administrative districts) since the Middle Ages: Eiderstedt itself on the east of the peninsula along with Tönning, the islands of Utholm and Westerhever to the west including the village of Tating and the island-like Everschop, dissected by numeros tidal gullies, with its suburb Garding.

The natural development of Eiderstedt influenced the history of its settlement and to a high degree the formation of the present-day cultural landscape. The peninsula can be divided into three regions, each with its own characteristic pattern of settlement of great individual significance.

- The area of the high sea marshes along the Eider estuary with its high village mounds and the remains of old Celtic block fields.
- Central Eiderstedt with long rows of low farmstead mounds as typical U-shaped marsh settlements with elongated row (expansion) corridors.
- Island-like west and north Eiderstedt, dissected by old tidal gullies and the incursions of the sea, with its irregularly spaced large and single-farmstead mounds and small-scale dyking in the form of ring dykes.

Along the Eider estuary groups of farming settlers came across high shore embankments, whose salt meadows presented the economic potential for agricultural use (Behre 1976, 60 ff.). By the beginning of the 2nd century the first communities of farming settlers in Tofting built their long houses on flat platforms of sod at an old bend of the Eider on an embankment 1.45 meters above sea level. A series of probes and small surface digs carried out by A. Bantelmann (1955) point to the formation of a village mound with a diameter of approximately 200 meters from the integration of individual dwellings, which were relatively constant in their location and gradually rising on debris. This site was abandoned at the beginning of the 5th century. The alternating build-up of layers of debris and alluvial deposits reveal Tofting to be an example of the ancient type of slowly rising village mound of the 1st century. The economy of the settlement was based on subsistence cattle raising on the salt meadows. The utensils and tools for daily living were made domestically, yet finds of Roman terra sigillata indicate interregional trading contacts. Today, the large village mound, visible from afar, lies deserted, partly covered by a stand of trees. Because it was preserved under favorable conditions, Tofting is a cultural-historical monument of early marsh settlement. Around the village mound block-shaped corridors recall the old lands, traversed by tidal gullies. The old bow-shaped course of the Eider is still distinguishable as a depression to the east of the mound. As was the case with Tofting, the village mounds in Pernör and Tönning were constructed in similar fashion and became regional centers (Meier 1996). Other large village mounds in the area of the Eider estuary, such as Elisenhof (Bantelmann, 1975), Welt (Meier, 1997) and Olversum came into existence in the Early Middle Ages. The founding of these mounds is tied to the Frisian immigration in the 8th century. The early mediaeval section of the Welt village mound is still discernible as a large mound. The present-day village and church lie on the neighboring mound, erected in the Late Middle Ages.

At Elisenhof excavations of the marsh settlement from the time of the Vikings (Bantelmann, 1975) provide the best example of an early mediaeval settlement with several farms relying on cattle raising. Elisenhof is a village mound near Tönning that is no longer easily recognizable as such and was eventually partly covered by new building construction in the 1960s. Several long houses from the 8th to the 10th century were located on the slopes of an embankment, near a side channel of the Eider. The surrounding area was dominated by salt meadows, of which today only small remains have survived along the

North Sea coast. Other settlements, drainage fields and treasure finds from Roman times and the Early Middle Ages lay on the sand embankments at St. Peter-Ording, Brösum, Tating and Garding (Meier 2001).

In the 1st century A.D. central Eiderstedt was characterized by drainage problems in the flatlands, when low-lying areas were turning into moors. Only inland water induced the inhabitants to marginally raise their low-lying settlements which, because of the unfavorable land, were only inhabited for short periods of time (Bokelmann, 1988; Meier, 2001). Whether the development of these small settlements is related to the enlargement of the farms on the village mounds is a matter of conjecture. The swampy flatlands were completely avoided in the Early Middle ages. While settlement in the 1st century remained dependent on local environmental conditions and were non-disruptive to the natural surroundings, the opportunities for settlement and cultivation changed completely from the Late Middle Ages. New methods of farming, knowledge acquired in the Netherlands about the drainage and cultivation of large moor areas and a burgeoning population combined with the immigration of other groups of settlers provided the impetus needed to settle the moor area (Meier 2001).

In the Middle Ages an extensive dyke, only parts of which are preserved, enclosed the central section of the Eiderstedt peninsula. This dyke construction enabled the drying-out of the swampy marsh by regulating the drainage of inland water.

This extensive dyke construction encompassing parts of the two „Harden" of Eiderstedt and Everschop is comparable to the Westfriiske Omringdijk, completed in northern Holland in the year 1320. A „Harde" is an administrative district consisting of several villages or farmsteads in Schleswig-Holstein. The construction of this dyke took place under the influence of the counts of Holland. The reason for its construction and frequent reconstruction is not only to be seen in its function as protection against tidal floods, but can also be attributed to its regulating the drainage of inland water. This also applies to Eiderstedt, although to a lesser degree. Even today the scenery of the region around Oldenswort, Witzwort and Ülvesbüll is distinguished by farmsteads extending in long rows on small mounds (made of clay to protect from inland water, less often made of peat). These farmstead mounds are found in the marsh and characteristically protected by an encompassing dyke and the adjoining regular striped fields framed by drainage ditches. Smaller dams („Sietwenden", moor dykes) mark off the different areas of drainage. The remains of old „Wölbäcker" (marks on abandoned farmland) parallel to the channel ditches attest to the remains of an old method of field-grass rotation agriculture. Elevated Wölbäcker (as protection from ground moisture) have today become meadowlands. The moor disappeared entirely as a consequence of its drainage.

In the Middle Ages the island of Utholm stretched across what is now the southwest of Eiderstedt. Both the island and Westerhever (Haefrae) formed a single „Harde". Reports in the record of royal land holdings of Waldemar II for the year 1231 documenting the existence of the island „Holm" (Aakjaer 1926-1949) suggest that it was only after this time that the island was connected to the Eiderstedt peninsula by means of a dyke construction through the tidal gully system of the Süderhever. In the west, the natural dunes, which today are covered predominantly with pine trees, created a natural protection zone near St. Peter-Ording. The church villages of Tating, Ording and St. Peter, which date back to the 12th century, are situated on sand embankments or sands which served as a starting point for the expansion of cultivation and settlement into the marsh. Tating has been able to preserve much of its original appearance while St. Peter and Ording have suffered under the influence of tourism to the area.

The settlement patterns in the marshes of the former island are characterized by occasional large mounds supporting several farmsteads, such as Ehst and Medehop, as well as several single-farmstead mounds dotting the area. Block fields reveal traces of the island's old cultivation fields, now traversed by tidal gullies. The remains of the island's mediaeval dykes have only been preserved in the east. The Süderhever, which separated Utholm from Eiderstedt, was enclosed by a dyke in the 12th/13th century (Prange 1986; Meier 2001). In the marshland regions of the Süderhever, small dykes were initially built on the seaward side before several dykes were then constructed in perpendicular fashion to dam what was only a small tidal gully in the Middle Ages. This is still made evident by the remains of dykes and traces of fields in the area. Numeros breaches in the dyke (with pools formed behind the dyke) testify to the tidal flooding which

threatened the marshes well into the early modern era.

The power of the sea to transform the landscape becomes particularly evident when examining the northern part of the Eiderstedt peninsula. After the North Sea had partially dismantled the barriers provided by the geest cores in the northwest and the sand embankments in the south, new clay was deposited in northern Eiderstedt throughout the large areas of marshland. At the turn of the 1st millennium A.D., areas of marshland resembling islands and crisscrossed by numeros tidal gullies began to form. Cultivation and settlement of these areas first started in the 11th/12th century (Meier et al. 1989; 1996; 2001). During the first phase of colonization, clay was used to create large mounds which were quickly enlarged to support several farmsteads. These large mounds are characteristic of today's landscape, such as Sieversbüll and Stufhusen in Eiderstedt, Osterhever or Helmfleth and Hundorf near Poppenbüll, and closely resemble in their construction the mounds located on the Halligen of North Frisia. The building of dykes in a small area of the farmland characterized by block fields allowed the construction of individual single-farmstead mounds scattered across the newly gained land. Analysis of botanical remains taken from excavations on the Hundorf mound provides evidence supporting the fact that construction of higher mounds had become a necessity. This, in itself, suggests the influence of large amounts of salt water in the High Middle Ages. Today, older channels which have partly reappeared naturally in the area (Fallstief, Kraueltief) still reveal the former cultural landscape that was divided into small individual polders in the middle of which occasional church mounds (Poppenbüll, Osterhever, Westerhever) were thrown up. Evidence of previous construction of dykes with flat sides facing both the sea and land has been found in several excavations (Meier et al. 1989; 1992; 1996; 2001). The families and communities living on the large mounds and organized into parishes seem to have begun work to enclose their farmlands with dykes largely on their own initiative. With its well-preserved settlement structure, farmland design and dykes as well as a tidal-gully system that can still be easily discerned, northwestern Eiderstedt represents one of the best-preserved examples of a cultural landscape containing mediaeval monument and landscape ensembles. The most striking is represented by St. Johannis Koog (polder) whose northwestern and western dykes ran along the banks of the wide Fallstief channel for which dykes were built around 1456. The ring-shaped dyke protected the farmland of several large and single-farmstead mounds which were partially integrated into the course of the dyke and connected by roads („Löhnen") to other large mounds. On some of the large mounds, such as Helmfleth, old livestock watering holes have been preserved. The church of Poppenbüll, recorded in documents dating back to the 12th century, is situated on a high mound located roughly in the middle of the polder. Stretching to the north and east of St. Johannis Koog, additional small polders (Osterhever, Mimhusenkoog) can be found whose mediaeval dykes have also been well-preserved. There are also large and single-farmstead mounds on some of these polders.

Improvements in dyke construction beginning in the 15th century allowed larger channels (Fallstief, Nordereider) to be dammed. The courses of these channels, such as the Fallstief in the northwest of the peninsula or the old Nordereider in the east, can still be detected today by observing the arrangement of the farmland. In contrast to the dykes from the Middle Ages, dykes constructed by the ducal dyke master builders since the beginning of the early modern era were no longer built with consideration given to the natural surroundings. Instead, the dykes cross the marshland in long, straight lines. Within these polders, such as Alt-Augustenkoog, which was enclosed by dykes in 1611, well-ordered rows of farmland extend from one end to the next. The farmsteads are situated in rows on the flat earth or on relatively low mounds. Beginning in the 16th century, dykes were constructed for increasingly larger bights (polders in the area of the Oldensworter Bight) and incursions of the sea (Nordereider). At the same time however, areas of cultivated land, such as Lundenbergharde, were continually re-transformed into mudflats due to severe tidal flooding. As a result of subsequent dyke construction on the sea side, dykes built in the Middle Ages partially lost their original protective function. The many extensive settlements constructed on these dykes attest to this fact.

The early modern era also brought improvements in transportation, which is shown by the creation of a boat connection from the sluice harbor of Kating to Garding. Maritime trade with distant lands was carried out from the port in Tönning which today has preserved much of its historical structure. In contrast, the embank-

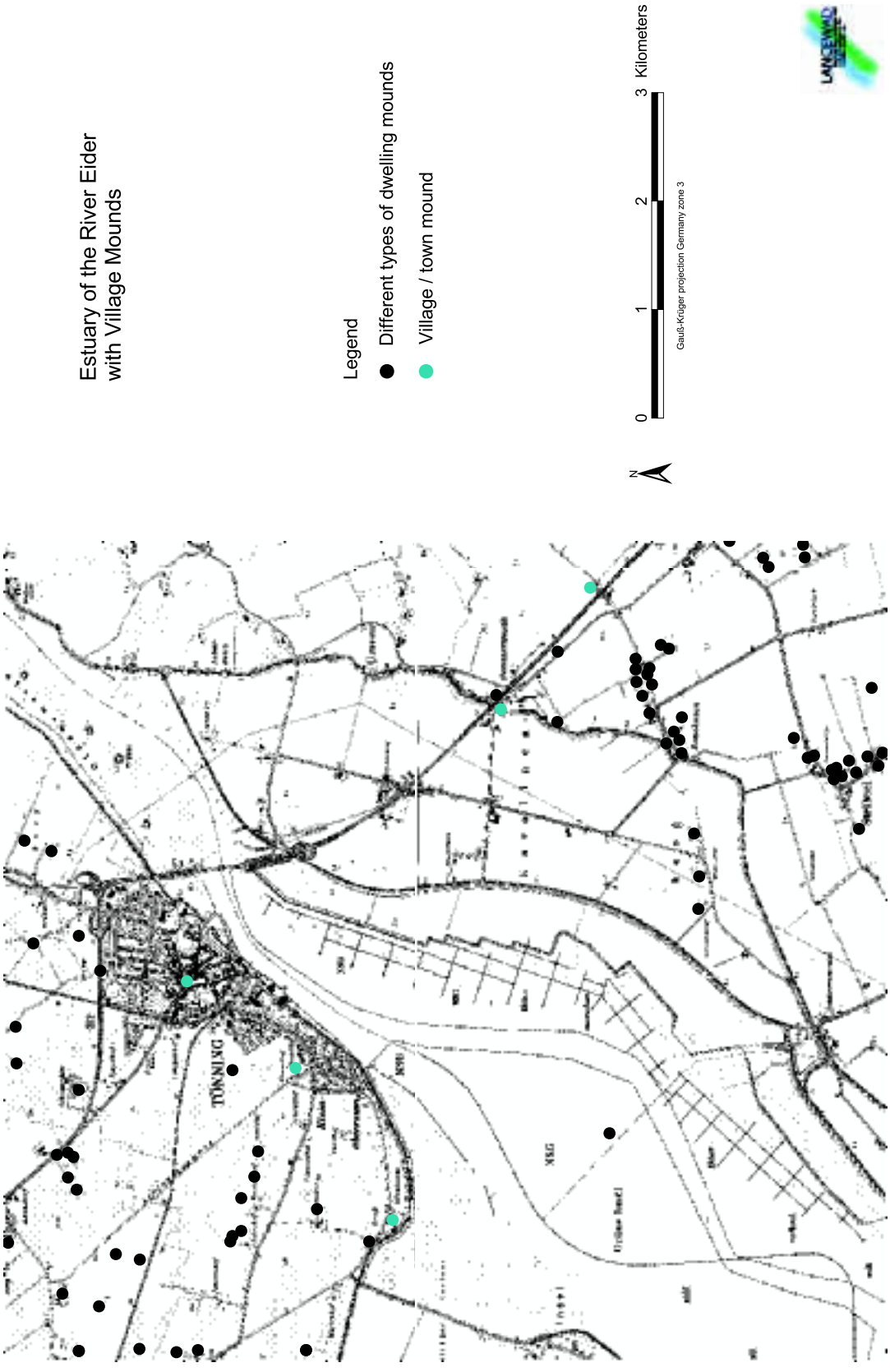


Fig. 4.31:
Estuary of the river Eider with village mounds

ments of the former walled city and the ducal castle had already been demolished in the early modern era.

Today's cultural heritage of the Eiderstedt peninsula still gives a sense of the historical dimensions of the landscape. Traces of settlements with village mounds up to 2000 years old located along the Eider, small ring dyke systems in the north of the peninsula or the extended U-shaped marshland settlements with farmland arranged in well-ordered rows still characterize the scenery of the area.

Thus, Eiderstedt is a region of exceptional diversity, character and beauty which has succeeded in preserving its cultural heritage to the present day. Some exceptions, however, can be seen in the regions around St. Peter and Ording which have been heavily developed for tourism. In places where the cultural landscape has been best preserved, a thousand-year seclusion has effectively thwarted any lasting change. The development of Westerhever attests to this fact. The island, which until well into the 15th century was protected by a ring dyke, was connected by dykes to the mainland after a dam was constructed on the Fallstief channel. Today's landscape with its old, block farmlands, watering holes and winding shapes of former tidal gullies used as drainage ditches is still characterized, just as it was 1000 years ago, by the large mounds (Stufhusen, Sieversbüll) and single-farmstead mounds dotting the area. Nonetheless, the houses and farms are now hidden by trees to break the force of the wind, giving the impression of being in a rolling landscape of a park superimposed upon a horizon line created by the course of the sea dyke (Fischer 1994, 21). Around 1850, the marsh in Westerhever still resembled the landscape of the Halligen with its farmsteads lying unprotected upon the mounds. Despite the losses of historical structures and the newly planted trees, the preservation of the scattered settlements can be attributed primarily to the fact that Westerhever was considered to be the epitome of seclusion well into the 60s. An indication of this is that until 1960, many homes still had no connection to the water and power supply. This state of affairs began to change as people from the city began purchasing farmhouses and tourism was developed. In the course of a good hundred years, Westerhever has lost three-quarters of its inhabitants. In the last thirty years alone, the population has lost another half of its inhabitants (Fischer 1994). Almost all of the smaller farmsteads have disappeared, several larger farms have been forced to abandon production and independent craftsmen are no longer to be found in Westerhever. In addition, there is no longer a school, village store, post office, poorhouse or forge. The community reaps little if any profit from the increasing number of tourists who come on day-trips, especially to Westerhever Sand west of the island. Despite the many historical facets of Eiderstedt's cultural landscape which have been preserved, the area is nonetheless exposed to the forces of change.

4.3.1.5 Dithmarschen

The Dithmarschen coastal area, with its sea marshes facing the Wadden Sea in the west, stretches from the estuary of the Eider river in the north to the estuary of the Elbe river in the south. The Meldorf Bight separates the Dithmarscher Nordermarsch from the Südermarsch. In the east are wooded old moraines dating from the Saale Ice Age, with boggy lowlands between them that reach as far as marshes stretching to the west and linking up with the Wadden Sea (Meier 2000). Since the Middle Ages Dithmarschen has been part of the three northern Elbe districts of Saxony and was recorded by Adam of Bremen about 1075 as „Thiadmaresgaho". In the 9th century the area was protected by the circular ramparts of the Stellerburg in the north and the Bökelnburg near Burg in the south. Both sets of ramparts are still clearly visible today and are outstanding cultural monuments. By contrast, the semicircular wall of Kuden, southwest of the geest rim near Burg, is already severely worn away.

Unlike North Frisia, as a result of the landscape's pattern of development , the cultural heritage of the Dithmarschen coastal area lies inside the present-day sea-dyke. The contemporary cultural landscape of the Dithmarschen marshes, as it has been shaped by humans, can be divided into three sections:

- The old sea marsh which was enclosed in dykes in the High Middle Ages, with its substantial village mounds
- The low-lying Sietland, which was made arable in the Middle Ages, with its elongated linear settlements
- The new sea marsh with its modern dyke constructions

The North Sea reached the edge of the Dithmarschen old moraines for the first time 6500 years ago as a result of the post-Ice Age rise in

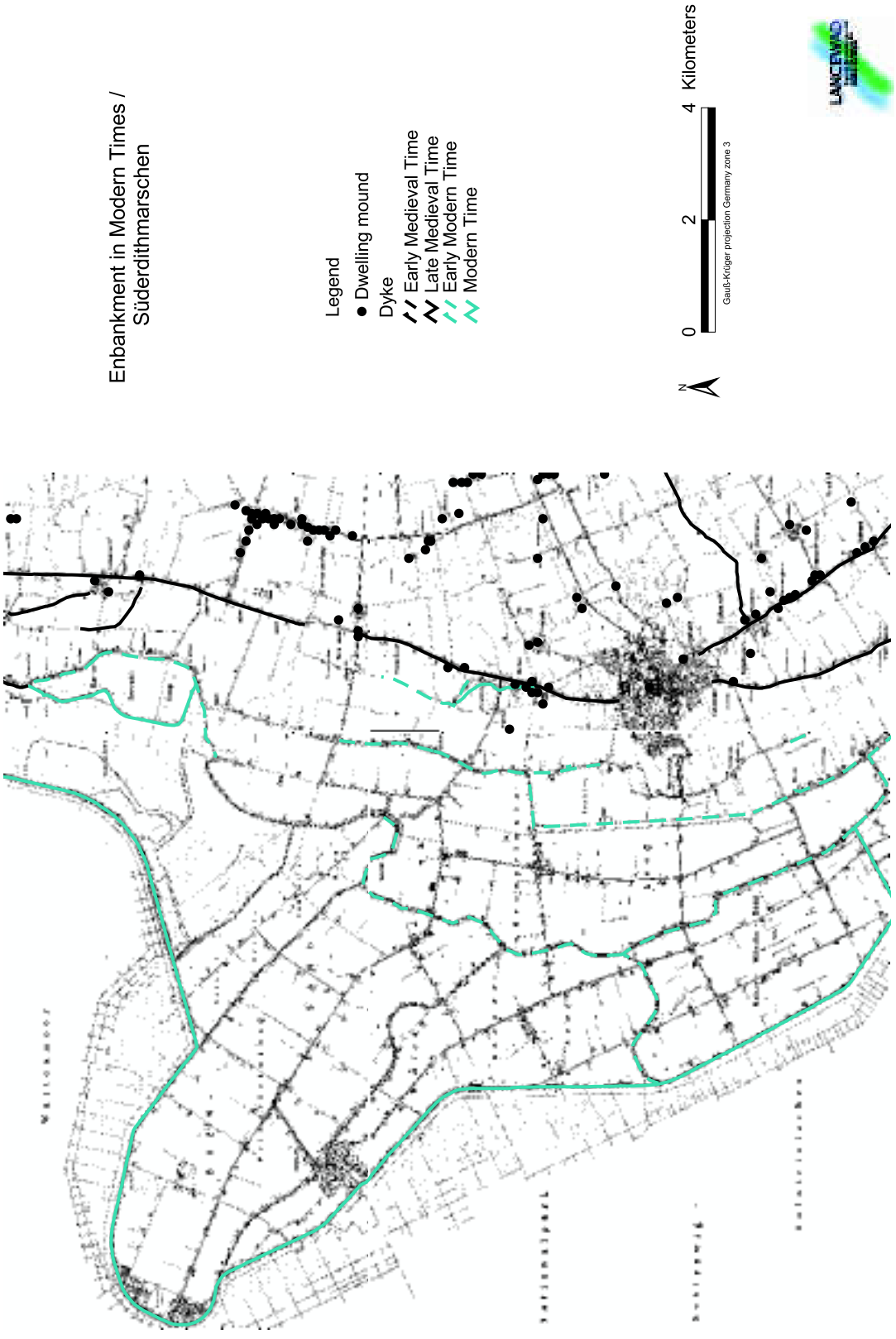


Fig. 4.32: Embankments in Süderdithmarschen

the sea level, and penetrated deep inland in the form of a bight. With the slowing of the rise in the sea level about 4500 years ago, a line of demarcation between land and sea formed as sand and gravel were carried down from the interior of the geest and deposited to form sandy spits running from north to south, on which dunes built up. Places like St Michaelisdonn or Lunden are situated on these spits. To the east, the low-lying areas that had been cut off turned into bogs, to the west the oldest sea marshes formed about 2500 years ago and quickly extended westward (Hoffmann et al 1997; Meier 2000).

After the sea marshes had probably been used as pastureland by the inhabitants of the settlements on the edge of the geest since the pre-Roman Ice Age, the first colonization of the old marsh occurred early in the 1st century A.D. The Dithmarschen coastal region thus belongs to the oldest settled sea marshes in Schleswig-Holstein. The surviving mound settlements from this time in Norderdithmarschen stretch out in a long north-south line. Further west, a second line of settlements came into existence starting in the middle of the 2nd century. Even today, building activity still follows this linear pattern of settlement.

Higher marsh areas around Tiebensee, about 2 km west of the geest rim near Heide, allowed conventionally shaped farmsteads at ground level to be built which had to be raised up on mounds in the 2nd century (Hoffman et al 1997; Meier 2001). As excavations in Haferwisch show, low mounds built up of clay were formed here on low reclaimed sea marshes. Increasing waterlogging and the beginning conversion of the marshes lying some distance from the coast into bogs may have been one of the reasons for abandoning settlement. By the 3rd century signs of a depopulation of the Nordermarsch are increasingly evident. Only in the vicinity of the meandering course of the Eider river do village mounds appear to have been built for settlement over a longer period of time, as the villages of Hemmerwurth and Flehderwurt suggest.

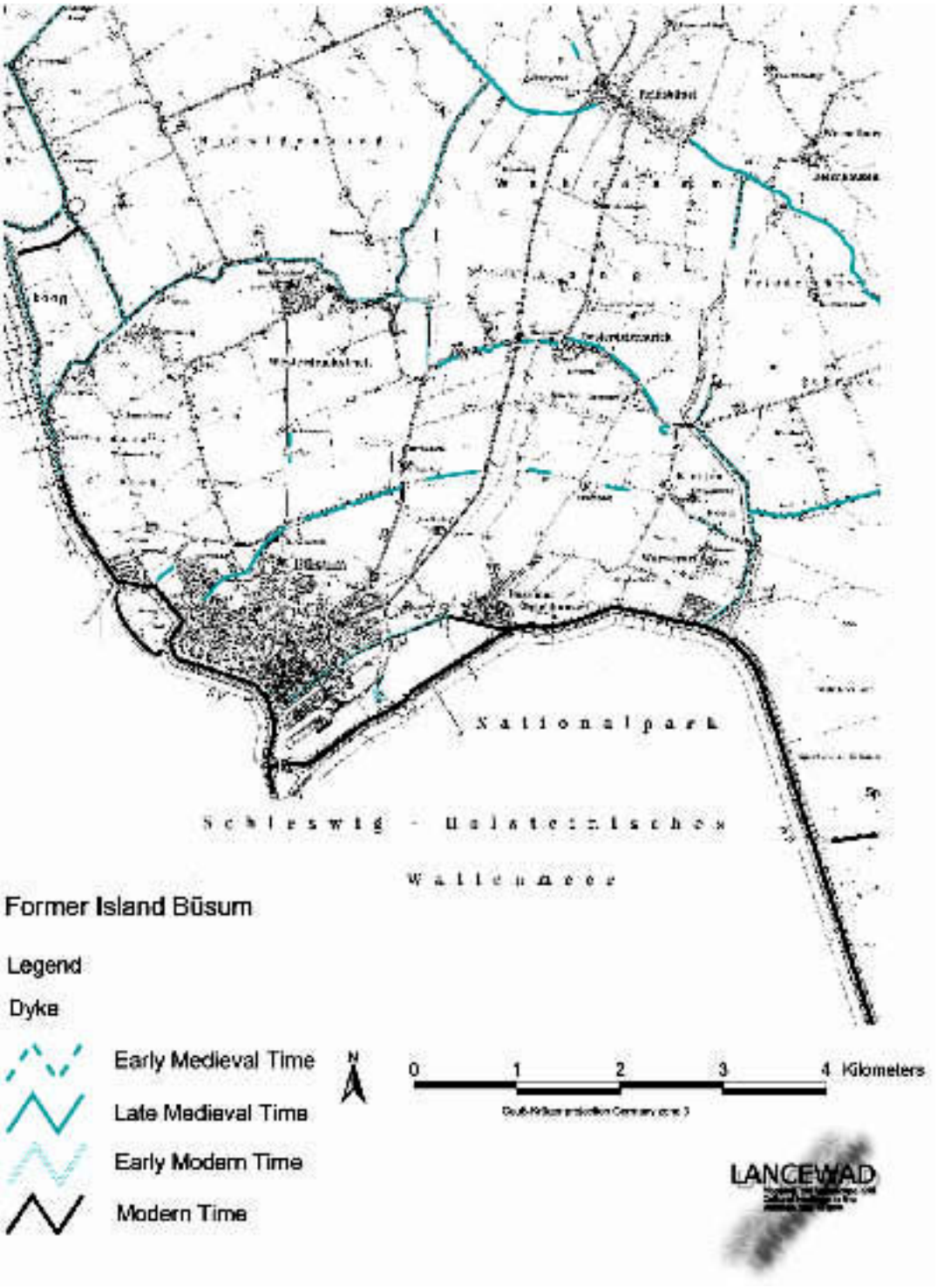
Further settlements from the period of the Roman Empire were located in the South Dithmarschen sea marsh near the coast. Despite this, here settlements also existed on the banks of tidal gullies, as the example of Eddelak shows. Extensive excavations have revealed that marsh settlements of the Roman Empire have survived as the foundations of village mounds from the Middle Ages. In Süderbusenwurth for instance, a settlement with several agricultural operations came into existence along a tidal gully. Because the sea marsh was only just above sea level, these had to be built on mounds. In the 2nd century the settlement area was raised substantially with clay. By 300 A.D. the mound was abandoned, apparently because the low-lying land became excessively briny as a result of frequent flooding.

A resettlement of the Dithmarschen sea marshes – carried out by groups of Saxon farming settlers – began in the middle of the 7th century. In the following years village mounds were established which today, due to their well-preserved history spanning over a millennium, belong to the outstanding cultural monuments of the Dithmarschen coastal region and constitute principal features of the landscape.

In Norderdithmarschen the sea marsh extended further to the west. High salt meadows along the tidal gullies were first used for settlement. This is evidenced by excavations in Wellinghusen, one of the most impressive Early Middle Age village mounds in the Schleswig-Holstein coastal region. The low, rounded subsections of this village mound, which fell into disuse in the Late Middle Ages, makes it possible to imagine how a substantial village mound came into existence over many generations, evolving from the linking-up of individual farmstead mounds. The well-preserved layers from the 7th to 11th centuries have a thickness of up to 4 m. From the middle or the end of the 7th century a ground-level settlement of several agricultural operations came into existence alongside a tidal gully. From the early 9th century this was raised to form farmstead mounds linked to a larger village mound that was continually raised until the 14th century (Hoffman et al 1997; Meier 2000; Meier 2001).

In the 10th century settlement became intensive, as the example of the village mound of Hassenbüttel north of Wellinghusen shows. Around 1100 A.D. a long chain of village mounds stretched from the Eider in the north to the Elbe in the south. These are notable points of interest in the sea marsh still today, above all the villages with churches, even though a growing number of wind farms begin to spoil the beauty of the landscape. The establishment of churches in the marsh is documented since the 12th or 13th century. These were built in the middle of the village mounds, as the ones in Marne, Wöhrden and Wesselburen show. Wesselburen and Wöhrden still display parts of their characteristic

Fig. 4.33:
Former island Büsum



medieval layout even today, with a church in the center, a market, plots of land radiating out, and a surrounding ring road.

In addition to this type of circular village mound with a church in the center that is common in the North Sea area, square mound villages with a chessboard structure also remain from the 11th and 12th centuries, as the examples of Schülp, Büsum and Büsumer Deichhausen show. Modern building patterns and the infrastructure of tourism – as in Büsum – have largely defaced or destroyed the original appearance of many village mounds.

A third kind of mound from the High Middle Ages can be seen in the long narrow mounds Norddeich and Reinsbüttel, which are reminiscent of early mediaeval mounds of a similar kind in northern Holland and Lower Saxony. As in the case of the mound village Wöhrden, these had small harbors through which maritime trade took place.

Cooperatives operating in the mound villages and organized into parishes began to enclose the sea marshes within dykes in the 11th/12th centuries. Around 1100 a long sea-dyke parallel to the coast was completed to protect the Nordermarsch and the Südermarsch. Unfortunately, only remnants of this first sea-dyke still exist today, for instance near Schülp in Norderdithmarschen and Busenwurth in Süderdithmarschen, and its exact course can only be estimated by the shape of the fields.

To the west of this dyke the island of Büsum projected far into the present-day Meldorf Bight. Its seaward marsh areas have again been reflooded by the Wadden Sea since the 14th century, as a result of catastrophic tidal flooding. In the second inundation in 1634, 168 people were drowned in Büsum and 102 houses were destroyed. Near the church lies the old harbor, originally purely a freight harbor until, in 1881, the fishing industry that is now so typical for the location began with the first fishing cutters.

In the east of the old island, dykes from the Middle Ages with numeros pools formed behind the dyke make it possible to trace the stages of the process of connection with the mainland by means of dykes (Prange 1986; Meier 2000). Right up to the early years of the modern era the flood tides flowed in to the height of the church. The building of dykes had far-reaching consequences for the marshes: The sea marshes were protected from the direct influence of the sea and regulation of the internal draining of water permitted extensive settlement of the boggy Sietland marshes („Wische"). Here the characteristic clan farming settlements that are so typical of Dithmarschen developed (Jarrenwisch, Tödienwisch, Wennemanswisch, Barlt). The broadening of landholdings carried out by these cooperatives and legally-constituted societies in the Sietland moved outwards from the village mounds of the sea marsh, and was completed by about 1400, as the building of churches in the Sietland shows (Neuenkirchen, Barlt). Since water was drained off, the bog-land disappeared and the cultural landscape which now dominates the inner area of the old marsh, with its long linear settlements and their adjoining strip-like fields extending ever further into the wasteland, emerged from the natural landscape. Remnants of the old Sietland bogs are only to be found in a protected habitat area called „Weißes Moor" in Norderdithmarschen.

To the west of the mediaeval dyke line, which has only been partially preserved, areas of land were reclaimed by the construction of polders (so-called „Köge"). Their higher sea dykes permitted establishment of farmsteads at ground level. For instance, large areas of Süderdithmarschen marsh were enclosed by dykes to form the Kronprinzenkoog in the 17th century and the Friedrichskoog in the 19th. Here, as in the Wesselburener Koog, two watering places involving cattle troughs surrounded by a circular dyke have survived, built on the land stretching out in front of the dykes in the same manner since the early modern era. After the Friedrichskoog had been enclosed within dykes, in 1854 a harbour was built in front of the drainage lock, with an 80 m long plank wharf for cargo-carrying sailing ships and fishing cutters. As a result of the connection to the railway system in 1884 the importance of the cargo trade diminished, whereas that of the fishing industry increased. In 1934 the harbour was secured against tidal floods through construction of the dyke enclosing the Dieksanderkoog with its large sea lock. The Dieksanderkoog, with its row of farmhouses along a long connecting road, offers the perfect example of a typical dyke enclosure of the 1930s.

The previously agrarian landscape in the vicinity of Brunsbüttel has had to give way to modern industry. Completion in 1895 of the North Sea-Baltic Sea canal with its sea-locks meant a strong upsurge for the little town, whose population rose from 709 to 5500 in 1939 and has reached 13000 today. Brunsbüttel owes its economic significance to its position on the North Sea-Baltic Sea canal, whose old sea locks form

part of our maritime cultural heritage. In 1950 the DEA petroleum company moved to Brunsbüttel and in 1978 Bayer followed.

The building of modern roads, the touristic infrastructure (Büsum), industry (Hemmingstedt, Brunsbüttel) and the erection of numeros wind parks have converted parts of the Dithmarschen coastal region into an agricultural-industrial and technological landscape. Despite this, areas of substantial cultural significance have survived. The most outstanding monuments are the large village mounds, which have preserved a history of settlement going as far back as a thousand years with finds of exceptional quality. As archaeological finds show, by the Early Middle Ages, the population of the village mounds was already participating in the maritime trade between the Franks and the Frisians, which originated in the trade center of Dorestad near Utrecht, covered the North Sea coastal region and extended past Dithmarschen and North Frisia as far as Ribe. In the 14th century, mound villages such as Wöhrden had trade contracts with the cities of the Hanseatic League.

The Sietland landscape is characterized by long chains of linear marsh settlements that even today make it possible to recognize the orderly agricultural development of the Middle Ages. The building of dykes and the draining of the land was organized by cooperatives, which functioned as hereditary power centers and preserved the independence of the region against foreign noble rule in numeros conflicts (Hemmingstedt 1500). Even today the local population feels strong bonds to its history. Dithmarschen's cultural heritage is thus held in high regard as a part of the cultural heritage of the North Sea Region.

4.3.1.6 The quality of the cultural landscape in the Schleswig-Holstein Wadden Sea Region

For the first time, the LANCEWAD project delivered an overview of the cultural heritage of the west coast of Schleswig-Holstein in digitized form. With this report it is only possible to offer some thoughts on the evaluation of this cultural heritage. A more detailed evaluation requires further studies. The cultural heritage can be characterized under four headings („archaeology," „historical buildings and monuments," „cultural geographical values," and „landscape images"), using three criteria of quality: „conservation status," „integrity of a system and context of the elements," and „representativeness". It is through its individual characteristics that the cultural heritage of a landscape can be recognized. Goal-directed evaluations of landscapes such as J. Geissler's (1999) study of Norderdithmarschen are essential for making sound decisions to protect the environment.

North Frisia (Nordfriesland)

North Frisia is a landscape of extraordinary variety. In the Wadden region, with its periodically dry phases, the traces left by cultural development (churches, dwelling mounds, wells, farmland, dykes, ditches, archaeological finds) contribute to a unique, representative heritage of vanished portions of the Utlande cultural landscape. However, these sources of historical knowledge of the landscape and its settlement cannot be preserved permanently, for they are threatened above all by erosion. Numerous dwelling mounds are preserved both on the marshes of the mainland as well as on the islands of Nordstrand, Pellworm and Föhr. This is also true of the Halligen islands which are unique within the entire North Sea region. Burial grounds and circular-walled castles on the islands of Sylt and Föhr are also important archaeological sources.

Variety is also a special characteristic of the North Frisian islands. The irregular distribution of dwelling mounds with their surrounding block-like fields on Pellworm are reminiscent of the old sea-marshes with their network of tidal gullies, while in Nordstrand the long chains of farmstead mounds take on a form that is typical for the formerly extended boggy areas of the interior of North Frisia. On both islands the variety and historical importance of the landscape are as well preserved in the shape of the fields, the dykes

and the distribution of settlements as in parts of the North Frisian mainland marshes (Wiedingharde).

The many areas of land reclaimed through polders bear witness in an impressive way to the struggle of human beings against the sea. Some of these are of great individual significance (Sönke-Nissen-Koog). The structural remains, especially the buildings, are of great variety and particularly worth documenting. The heritage of city buildings is preserved in North Frisia in places like Husum, Tönning and Friedrichstadt to a degree not otherwise seen in any region of the North Sea coast of Schleswig-Holstein.

It is true that the impression of North Frisia as a wide, open land has persisted until today, but wind parks are disturbing the landscape in some regions.

Eiderstedt

Eiderstedt presents a marsh landscape of high individual significance. In the northern part of the peninsula the marsh landscape, which has been settled since the High Middle Ages and boasts great historical interest (St. Johannis-Koog, Westerhever, Osterhever), is characterized by ring-dykes, block-like fields, irregularly distributed multiple and single-farm mounds and old systems of tidal gullies. Sites of archaeological interest (mounds, dykes), cultural and geographical elements (the shape of fields, tidal gullies) are extremely well preserved here and make it possible to recognize the mediaeval cultural landscape. The different small polders make it possible to follow the history of dyke-construction in the region. It is true that the localized planting of windbreaking trees has changed the landscape from an open marsh region to a park-like area, but despite this the marsh region is one of the most impressive of the Schleswig-Holstein North Sea coast. The mediaeval structure of long linear settlements with elongated fields projecting from them remains intact until today in the central part of the peninsula (Oldenswort, Üvesbüll, Witzwort) and represents the pattern of land development during the High Middle Ages. The area around the estuary of the Eider river, with its mound villages dating back as far as 2000 years and the historical city ensemble of Tönning is also of great significance. Apart from a few exceptions, the structural heritage in Eiderstedt is well preserved. Particularly characteristic is the farmhouse form known as the „Haubarg".

Dithmarschen

Although Dithmarschen belongs to the regions of the Schleswig-Holstein North Sea coast in which the conversion of rural areas to an agricultural-industrial landscape has clearly left its mark, the cultural heritage has essentially been preserved. Especially impressive are the large mound villages in the Dithmarschen coastal region, with its 2000 year-old extremely well-preserved layers of settlement. Like the Early Middle Ages circular walls on the edge of the geest, they number among the most important archaeological monuments of Schleswig-Holstein. Together with the surviving system of tidal gullies, the Early Middle Ages mound villages between Wesselburen and Wöhrden in the Dithmarscher Nordermarsch show very well the structure of the old sea marsh. Unfortunately, the structural remains on the village mounds as well as in the remaining landscape have suffered badly. The dykes from the Middle Ages, like the sluice channels, an important documentation of the cultural landscape wrought by human hand, have in part been destroyed in Dithmarschen but can still be recognized along the original dyke line they once traced. Breaks in the dykes with surviving pools formed behind the dyke, as on the old island of Büsum, add to the historical significance of the dykes from both a cultural and environmental point of view.

Thus, the mound farmsteads on the inner side of the old marsh from the High to Late Middle Ages can be regarded as having high structural significance. Their distribution as long north-south rows of mounds, coupled with the straight sluice channels running in an east-west direction, show the conversion of the boggy low-lying marshes into agriculturally useful environments. The polders in Süderdithmarschen are characteristic for land reclamation policies instituted in the early modern era.

Dithmarschen is, however, one of the coastal regions where there is a high incidence of aesthetic conflict between nature, cultural traditions and modern technology. Because of the broad vistas offered by the landscape, the large number and the high concentration of wind parks have decisively altered the aesthetics of the coastal region displacing the once-dominant village mounds and their churches as the principal features of the landscape.

4.3.2 Cultural heritage of agrarian buildings

4.3.2.1 Introduction

The regions of North Frisia with the Eiderstedt peninsula and Dithmarschen along the western coast of Schleswig-Holstein feature a coastal margin of mud flats stretching from the Danish border near Wiedau all the way to the estuary of the Elbe river and are divided by an ancient natural boundary, the Eider river. The Eider follows a winding course through the geest ridges of the old moraine into its wide estuary. Despite this the area also displays geological features common to the region as a whole, with a shared history of settlement that fascinatingly unfolded in different ways within each region. It is thus probably helpful to start by providing a broad overview of the entire region's forms of settlement and house construction.

Since recorded history, this marshland landscape and the adjoining geest ridges have been utilized as a farming region. This has not changed to the present day. The focus will therefore be on considering the current state of farm dwellings as they represent living history and cultural legacy.

The settlers came into the area along the rivers and tidal gullies and began farming the land and raising livestock on the pasture meadows as early as the 1st century A.D. Their homes served as animal stables and living and cooking areas for the family. Evidence can still be dated to around 800 to 1000 A.D. of this type of low, narrow, hip-roof thatched house supported by an interior frame structure. The building was divided into three sections with the living area lying at right angles and the stables extending along its longitudinal axis.

The longest partly excavated longhouse was found at the marsh settlement of Elisenhof on the Eiderstedt peninsula. Capable of accommodating 30 „large animals", it dates from the Early Middle Ages and measures 32 m in length.

The buildings are constructed in close proximity for mutual protection. In Archsum on the island of Sylt, a row of parallel houses on an east-west axis still exists to this day. Beneath this are four documented layers of settlement. Wind protection and the mound's proportions have always defined the features of the site. The low Uthlande longhouse native to the islands and marsh foreshore in North Frisia, which was built up to the second half of the 18th century, is similar to the type found here, while the North German bay hall house, the house commonly found in the Dithmarschen geest and the southern geest of North Frisia, also springs from this style of building.

Around 800 A.D. the settlers inhabiting the Uthlande were Frisians. More Frisian immigrants came to the area in the 11th/12th centuries. Traces of Viking settlement indicate an early influence exerted on the region by the Scandinavians (Danes). In the 16th and 17th centuries colonists came from the Netherlands (Eiderstedt/Nordstrand/Friedrichstadt) and in the 18th century East Frisian colonists also came to help build dykes and settle the Kronprinzenkoog in Dithmarschen. With them came an influx of building styles – „Haubarg" (square, multi-storey building), the „Barg" barn and the East Frisian gulf longhouse. By building their typical North German bay hall houses on new settlements in Dithmarschen's geest, the North Elbian Saxons, whose settlement of the Schleswig-Holstein interior is documented, were pivotal in the development of the farmhouses there as well as in the Dithmarschen marshlands. In Dithmarschen, the structure of these Saxon houses came to be blended with the later gulf house of the Frisians.

The cultural heritage of agrarian building in the regions described in this publication cannot be portrayed without considering the trilateral influences stemming from West and East Frisia, the Netherlands and the stretch of land between Denmark, North Frisia and Dithmarschen.

4.3.2.2 Nordfriesland – the mainland including the geest, marsh and Hallig islands

The district and its settlement structure

Churches and parishes

The district of North Frisia with the islands and Hallig islands off the coast was established as a newly formed political unit in 1970 by combining the former districts of Südtondern, Husum and the Eiderstedt peninsula. Common economical and cultural forms evolved under the provincial authority of the Dukes of Gottorf from 1544 – 1720 and also under the Danish crown from 1720 until the region became a part of the Prussian province of Schleswig-Holstein in 1864. The region is made up of the Wadden Sea tidal wetland on the North Sea coast, the marsh landscape consisting of 171 polders which resulted from dyke building and drainage systems built

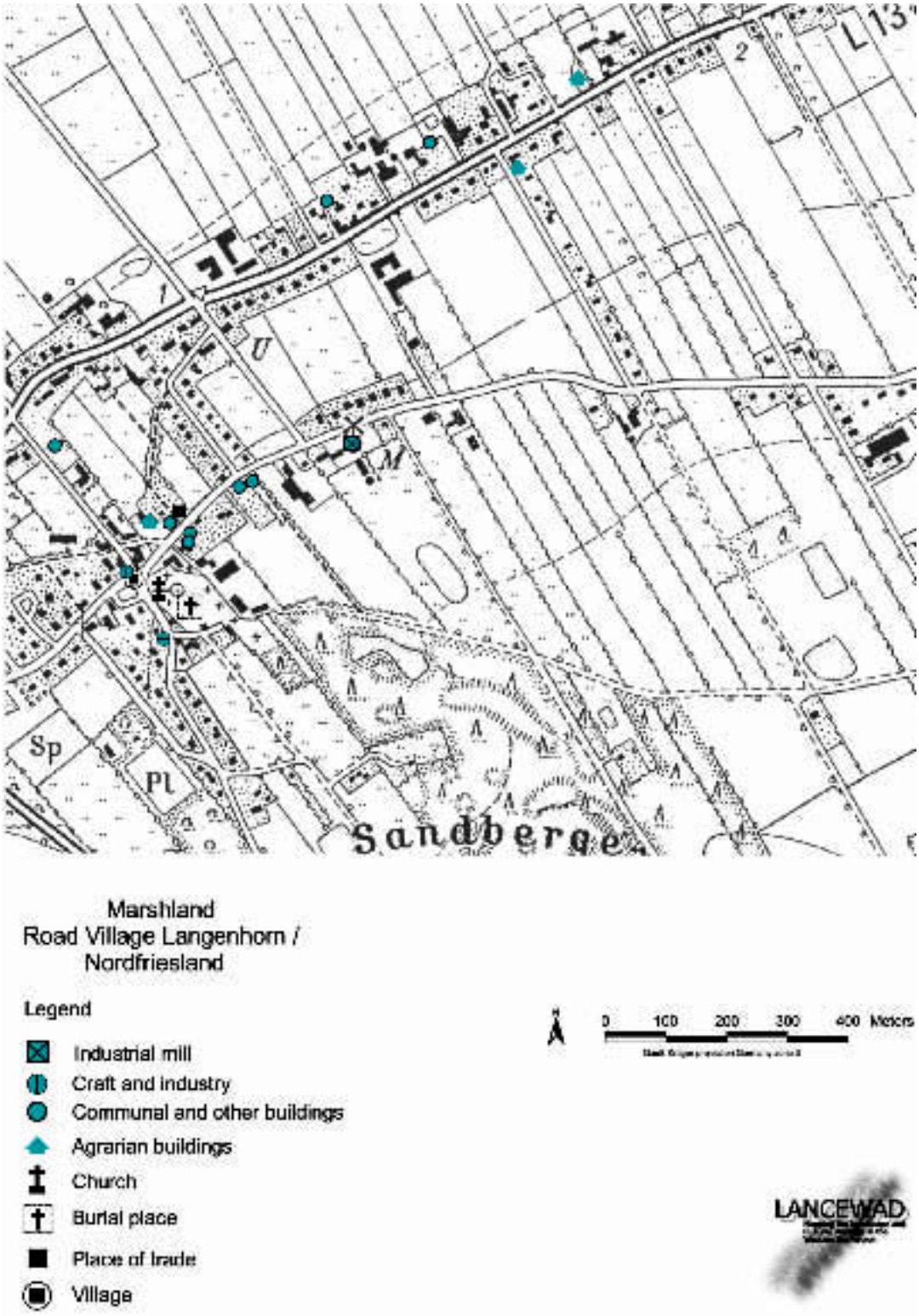


Fig. 4.34:
Road village Langenhorn

from the 12th century until the present day, and finally the geest ridge running from north to south. The district's subdivision into so-called „Harden" (administrative districts) took place in the 12th century when the area was ruled by the Danes. The chronicler Saxo Grammaticus called the region „Frisia minor". Several farming villages made up a parish and several parishes a Harde. These divisions and terms continue to be used today. Wiedingharde, Bökingharde and Karrharde are still administrative districts.

The first parish churches were established in the 12th and 13th centuries. The architectural value of these structures is considerable because the scale of building efforts and traditions of those times are preserved from a period from which no secular buildings still exist. Valuable interior fittings, especially Romanesque baptismal fonts, Gothic altars and pulpits dating from the 16th and 17th centuries have been preserved.

The large island churches – for example the „Frisian Cathedral" of St. Johannes in Nieblum on Föhr – served as a guide to sailing vessels near the shore and also demonstrated the affluence of the Frisians in the Middle Ages. This was acquired through trade in cattle and salt and through their role in the Golden Age of Dutch whale and seal hunting in the 17th and 18th centuries.

The small Hallig hall churches exude the charm of modest simplicity. Churches of this type can now also be seen in the middle of the polders (after dyking enclosed them – e.g. Ockholm, Westerhever and Osterhever). These churches often have a separate low wooden belfry pedestal (Hallig Oland, Hooge and Langeneß) or belfry (among others, Katharinenheerd, Koldenbüttel, Bordelum and Bargum). In keeping with Frisian architectural style, many churches have an entrance on the north and south side. A small lime-tree shaded village church from the 12th century located in the geest village of Olderup (Südergoesharde) is also noteworthy here. Its floor and ground plan are in the tradition of early Carolingian hall churches from the period of early Christianisation in this region and are probably similar to those found in England and Ireland. The nave and square chancel are separated by a triumphal arch with entryways along the north and south walls. There is also a wooden belfry erected at a later date.

The geest bordering the marsh was the preferred location of settlement from the very beginning – and was also favored as the site for churches. The convenience of living on the geest verge meant farming and animal husbandry could be carried out profitably on the plots of marshland as well as the upland geest – both only a short distance away.

Langenhorn in Nordergoesharde is a fine example of a linear village with plots of land lining the village street. On both sides of the road longhouses, farmsteads and narrow plots of land face each other symmetrically, their borders set off by ditches. The island villages of Midlum, Oldsum, Oevenum and Wrixum on Föhr also demonstrate the same principle, which is still preserved today. However, as was once the case in Niebüll, there are two paths permitting access from either side, with smaller paths leading off to the geest, the farm sites and the marsh. The upper path to the geest remained dry, even at high tide.

Beginning in the 16th century, the dukes began to exert more control over the foreshore. Following the example set at Nordstrand, where re-dyking of the island was completed after the tidal surge of 1634, the duke imposed an agreement on the new settlers from the Netherlands which led to the erection of many new dykes. Individual farmsteads are the rule on the mounds. Former Hallig islands which now form part of the mainland, such as Waygaard, Fedderswarft and Dagebüll, but also Stuffhusen on Eiderstedt, have retained their distinctive Hallig architectural style to the present day. As a means of protection from the prevailing winds, longhouses all face to the west, standing in single file along one axis, lending the villages along the edge of the geest a unique appearance. With each succeeding year, detached homes encroach on the centuries-old layout of the villages with no overall plan guiding their construction. Klockries (Bökingharde) and Büttjebüll (Nordergoesharde) – serving as representative examples from a much larger number of communities – have a well-preserved village structure with many farmsteads still intact, although they will eventually need to be listed on the national register. The restoration of these village buildings (windows, doors, roofing) is worth considering. The „Anton Andersen" house in Klockries – where restoration has been carried out on the basis of historical findings from the 18th and 19th centuries – is an impressive example of such a preserved building (Fig. 4.46).

Husum is the seat of local government. Osterkamp square, today the site of the local government, was once the large regional stock-

yard and served as the stock mustering site for fattened cattle in the autumn or lean cattle in the spring for the entire region as well as for the Jütland peninsula after Danish approval of exports in 1783. From here and from the Hallig islands and geest, lean cattle were brought to market in cattle drives of 1000 lasting ten days. In the summer the cattle grazed on the rich meadows of the surrounding marshlands.

Trading companies in Husum dealt in grain with the Netherlands via Amsterdam and the Rhineland, as well as carrying on trade in cattle, cheese and butter from 1847 to 1888 through shipments to England via the Tönning harbor. The large warehouse of 1783, located at the Tönning harbor, serves as a reminder of the Eider Canal which was an early passage connecting the North Sea with the Baltic Sea. The existing port facilities – today there are grain silos at the outer harbor in Husum – are signs of the large farm owners' affluence and self-esteem, whereas the larger part of the population were fighting to survive in penury.

Bourgeois and ducal buildings

The oldest market towns of Husum, Friedrichstadt, Tönning and Garding were granted civic rights in the late 16th century and the beginning of the 17th century under the duchy of the Gottorfs (Tönning 1599, Garding 1599, Husum 1603 and Friedrichstadt 1621). The cityscapes bear common cultural traits derived from Danish, Dutch and finally German influence, and demonstrate the steady growth of residential areas with bourgeois homes over a number of different periods. The oldest buildings still extant date back to the founding of the city. Upon receiving civic rights, in Garding, for example, a „Rektorschule" (demolished in 1985) and a courthouse were built, the latter a long structure with windows on the gable side built using large „cloister" brick with a Gothic frieze gracing the eaves beneath its high saddleback roof. It is largely preserved. The building structures, brickwork and roof structure and even the wall ties often date back to earlier times than would be assumed by looking at the façade. The interior of Husum's city hall, built in 1601, was restored to reveal the completely preserved hall with heavy oak beams and frescos, while the façade was covered over with brick in the 1970s in accordance with evidence of the prevailing style dating from the Baroque age and Classicism. It should be mentioned here that Husum commissioned the construction of a prize-winning city hall during the 20th century (1986) at the slipway of Husum's shipyard. The exemplary variety of the city's historic layout is part of the local architectural heritage.

Among the oldest bourgeois homes are those built by Husum's mercantile class with their trademark Hanseatic style characterized by a two-storey hall, counting room, living area in the upper floor and attic below the high saddleback roof. Only a few of this type have been preserved in Husum whereas there are many extant in Friedrichstadt. Classicism frequently brought changes to the appearance and design of buildings built during the Baroque period. Thus many bourgeois homes – especially homes erected during Late Classicism – can be found within these cities, whereas only a few Baroque façades such as the home of Theodor Storm's parents in Husum still exist. Violent intrusions that defaced the cityscape took place during the Gründerzeit both here and elsewhere. The addition of more city streets and changes to the old city center carried out during this construction boom are symptomatic for the appearance of cities in this area.

In Tönning stepped gable buildings were concealed by non-descript façades. These buildings are older than the buildings of the Classical era from the harbor area which were built after the great Husum fire. In all communities, the smallest buildings with windows either facing out from beneath the gable or the side are a reminder of the life led by the poorest members of the population – the fishermen and laborers. A single window and low door directly below the eaves speak for the meagre needs of these people. There are buildings of this type on the west side of Husum and its „Osterende", as there are in Garding und Tönning as well.

The ducal buildings in Husum are the best preserved thanks to financial support from the national registry of landmark sites. Outstanding structures bear witness to bygone periods while also underscoring the chasm of power dividing the bourgeoisie and the duke. These include the castle outside Husum, completed in 1577 – 1583 in Dutch Renaissance style with red brick alternating with light-colored sandstone, the whitewashed gatehouse from 1612 and the cavalry house in the castle park where the monument to Theodor Storm also stands.

The landscape heritage of agrarian buildings

The Uthlande longhouse/Angular buildings and four-sided farmsteads/The Geestharden

house/The „Haubarg" (square, multi-storey building)/The North German bay hall house

A representative order of rural buildings in North Frisia can most easily be conceived of if the two basic types of building found here are presented: In the Uthlande, a coastal marsh area, Hallig islands and islands settled by Frisians, one finds the Uthlande house (Fig. 4.45). The so-called Geestharden house is found in the villages throughout the geest and along its edges (Fig. 4.47).

Both types of house and their extension to form large farmsteads are one of the most distinctive features of the landscape, and bear the unmistakeable stamp of North Frisia: Red bricks, white windows, doorways and gates, thatch-covered hipped-roofs. However, the deterioration of building substance, the abandoning of farmsteads, structural changes foreign to the original architectural style remain dangers these structures are exposed to.

The prototypical Uthlande house is a small, narrow bay house with a joist-supported inner frame structure separated into a stable and living area – in the event that a major storm and flooding were to take the walls and roofing off the building the wooden frame structure would remain as a final haven to protect the inhabitants of the house. One bay marks the distance between two rafters. It resembles the rectangular longhouse of the Iron Age and Early Middle Ages found in archaeological excavations. The stables ran the length of the building with the stable door in the narrow gable entry with a dung heap directly before it.

The living and stable areas were always separated by a narrow vestibule with entryways on the north and south side, with the building as a whole placed on an east-west axis to provide protection against the wind. The fact that the buildings face the same direction – a characteristic most frequently seen on the islands and the Hallig islands – is typical, with all buildings in close proximity to one another. The living area is subdivided into four rooms by cross-shaped wall partitions, at the intersection of which the fireplace and chimney are to be found. The Uthlande house was most commonly occupied by small farmers grazing livestock and by sailors, especially the inhabitants of the Hallig islands on the seaward side of the dykes. Consequently, there was no space for crops and threshing, only a low space for storage in the stables. Hay was wrapped in linen cloth and transported into the house through a small hatch in the attic's half-hip roof. Hay was also stored outdoors in four-post sheds with an adjustable roof or in haystacks.

Additional siding with rafters slightly extended the width of the house, while early use of sod walls, mud-wall with hurdle-work and wooden walls (both within and without) gave way to walls of masonry, and wooden siding in the gable was succeeded by brickwork. On the Hallig of Langeneß – standing side by side on the Ketels dwelling mound – the homes „Haus Tadsen" dating from 1741 and „Haus Sönnichsen" now house a museum and are examples of an Uthlande house with a joist-supported inner frame structure. „Haus Olesen" of 1617 at the open-air museum in Wyk on Föhr is another example of this type of house.

The later style dispenses with the inner frame structure and can be found at many places in the area as a small farmstead, a cottage or an artisan's or fisherman's house. Additions made to this type of house – depending on the kind of farming being done – were completed by adding a barn or stable with a hayloft supported by a similar inner frame structure, but with the half-timbering at a higher point.

The earliest known example was the Axen house in Lindholm, erected in the first half of the 17th century. (Braun/Strehl, 1989) It had a barn annex running parallel to the original building, with an entry at right angles. This house is privately owned and has been completely restored and is excellently maintained (Fig. 4.45).

Because the Uthlande house cannot be extended in length, barn annexes form one or more angles (Fig. 4.46). Researchers studying this kind of architecture refer here to farmsteads which are shaped like a „7" or are „5-shaped" until the next level, a three-sided farmstead, or even four-sided farmstead in the most fertile polders (Fig. 4.48). These proud farmsteads still exist in both polders at Christian-Albrechts-Kögen, in the Kleiseer Koog, in the old Wiedingharder Koog and also on the marsh island of Pellworm. On the islands of Sylt, Föhr and Amrum, the angular design dominates with some farming carried on by the wives of sea-faring men. These buildings still exist today, but have been converted into bungalows for holiday-makers. Finally, there are two authentic farmsteads with their original farming implements in Utersum and Midlum which will probably meet the same fate.

The Geestharden house is a long, wide bay house with superimposed tie-beam construction, also running along an east-west axis, with the

building space, living area, threshing floor, stable, second threshing floor and square main hall all supported by four posts. The living area thus resembles the Uthlande house in its basic form in that it also has four rooms.

This type of house can easily be extended, and thus there are smaller Geestharden houses with low eaves as well as Geestharden houses boasting a considerable length built over various periods until the end of the 19th century. Belying its name, the Geestharden house was also built in the marsh, with extended angular annexes (Fig. 4.47).

Dutch domestic culture, complete with tiled walls in the living areas which retained and gave off heat from the two-legged cast iron „Bilegger" stove, and with alcove beds and closet space along the walls, all form a part of the Uthlande and Geestharden house tradition that is well worth preserving today as a facet of our European cultural heritage. Ship captains on the islands and Hallig islands enhanced their standard of living by bringing various objects back with them from Holland.

Dutch immigrants who came to Eiderstedt starting in the 16th/17th century instituted their own tradition for building farmsteads which will be presented in a separate section. This was the tradition of the „Haubarg" (Fig. 4.52).

In addition to the farmhouses already mentioned, there is also the Anglo-Saxon North German bay house, spread over a small area limited to the southern part of Südergoesharde, on the geest north of the Eider and Treene. The Ostenfelder farmhouse dating from the 16th century (separate parlor room extensions in 1673) was relocated to Husum in 1899 and converted to an open-air museum. Exceptional examples of this type of house are found in Seeth in the district of Stapelholm. These oak-timbered frame structures date from the late 16th century.

At this time, the inhabitants raised livestock and tilled the land, both to meet their own needs and for sale. Grain was processed into milled flour, groats and coarsely ground barley, rapeseed pressed to gain oil. Of these post mills, there is only one specimen preserved at the Molfsee open-air museum. In the 18th and 19th centuries, windmills of the Dutch style gained favor over the post mills because the latter were so labor-intensive, requiring the entire mill to be rotated on a crosstree to face the wind. The rotating cap of the new smock mills from Holland – built on ground level, with an additional gallery or a mound of earth pitched to allow access to the blade – represent a considerable gain in efficiency. This design was further extended when the so-called tail pole – used to position the mill to face into the eye of the wind – was replaced by the fantail in 1750. There were many mills within the region. During the 17th century, much to their distress, millers and farmers were forced to give up control of their mills by a royal edict issued in 1720. Government control of mills was not abolished until 1852. The demise of windmills began in 1925 as large mills which ran on electricity were constructed. The last „Dutch-style" mills were still in operation until 1950/1960. Conversion to other purposes has led to the preservation of 13 mills in North Frisia. The oldest date from 1771 and are found in Joldlund and in Nebel on Amrum. The last one is still operational as a mill, and also serves as a heritage museum. Most restored mills date from the 19th century. On Pellworm the mill „Gott mit uns" (God be with us) was also a navigational aid. Of 40 mills on Eiderstedt, „Emanuel" and „Catharina" underwent restoration and were converted to other purposes.

Farm buildings – contemporary trends

The valuable inventory of surviving farmstead dwellings and ancillary buildings from agrarian life in North Frisia is constantly being adversely affected by two post-war developments. It has become possible to separate ownership of the farmstead and of buildings. Large tracts of land are required in order to be able to achieve economies of scale for a farming operation. Many farmers are leasing their land and placing the farmstead property on the real estate market.

The most beautiful and best-preserved four-sided farmstead in the verdant „Neuen Christian-Albrecht-Koog", the Nahn farmstead, greets visitors with a sign advertising the „Beauty und Wellness Hotel" housed within it (Fig. 4.48).

After leasing additional land or purchasing a larger share of milk quotas, farmsteads require more buildings. From time to time, new ancillary buildings are added by the leaseholders – forming a hive of sheds and outsize buildings around the original single-family house, in some cases crowded in at the foot of a dyke. Building and zoning legislation passed in 1998 allows less orderly principles for construction. This has led to rampant building methods which give the property a jumbled appearance. As early as the mid-seventies, the tourist industry made overnight lodgings and a second domicile in the

country away from the traditional seaside resorts more popular, and has also meant that farm dwellings have become the property of new owners. A large proportion of the houses forming the local heritage were thus preserved, yet conversion of the property to other uses has resulted in varying levels of preservation quality.

The property development in the Sönke-Nissen-Koog – just outside Bredstedt in the district of Nordergoesharde – is a rare and noteworthy example within the landscape of „modern" farm buildings. In 1926 four large farmsteads were built here by the architect H. Stav. These are living proof of how the creative use of new materials allows building design to blend into the landscape (sheet metal painted green and white, white plasterwork, glass). Those familiar with these farmsteads appreciate how the flickering of the sun's rays on the light green roof blends with the azure sky in the distance. The building and landscape meld to become one, a basic law of architecture still valid here.

The considerable heritage represented by the houses in North Frisia require the use of fundamental planning principles for their preservation and redesign.

4.3.2.3 Eiderstedt – the peninsula of the North Frisian district

The district and its settlement structure

Churches and parishes

Still called the „Dreilande" (three lands) to this day, Eiderstedt consists of the three isle-like administrative districts (so-called „Harden") of Utholm, Everschop and Eiderstedt. These districts are separated by tidal gullies and incursions of the sea and were transformed into a peninsula through dyke-building and drainage measures starting in the 12th century and continuing all the way to land reclamation efforts of our day. Eiderstedt was a separate district until the administrative reform of 1970.

The large island „Strand", of which only the marsh islands Nordstrand and Pellworm remained after the flood tides of 1354 and 1634, once stood close to the shore of Eiderstedt, only separated in the north by the Heverstrom sea channel. These islands and the peninsula share the common trait of having an unusually fertile layer of marsh topsoil, which on Eiderstedt is especially rich. This soil formed the basis of the Eiderstedt farmers' affluence. The Garding chronicler Volckmarus Carolus wrote in 1795: „The soil is the source of two-fold riches."

The sand embankment running across Eiderstedt from west to east, referred to by the locals as their „geest" holds not only finds from the Stone and Bronze Ages, but also the oldest evidence of settlement - dating back to the 1st century A.D. In the Middle Ages too, the soil's intrinsic quality and high elevation offered the safest conditions of survival by making it possible to build houses on a site which would not be flooded.

Thus, settlements were established here in the Middle Ages, which also saw church structures completed in the 12th and13th centuries, leading to the establishment of the parishes St.Peter-Ording, Tating, Garding and Katharinenheerd.

The „Chronicon Eiderostadense vulgare von 1547" – a chronicle which also contains historical records from 1103 to 1482 - reports that wooden chapels were erected in „Tatinghen" (Tating) in 1103 and „op dem Kleve Garsande" (Garding) in 1109. Shortly thereafter both were destroyed by fire and replaced by stone churches. Garding anno 1117: „Chapels are constructed from the chapels" – one should note the „water-ravaged land" and the difficulty of navigating the paths and roads. The sites are named „Poppenbüll, Tetenbüll, Osterhever, Katrinherde, Welte and Vurewyck" (Vollerwieck).

The 18 churches still existing bear witness to these early beginnings. They stand alone as the most valuable remnants of mediaeval architecture in this region, despite alterations to their structure carried out mostly in the 19th century. The „Eiderstedt pulpit" from the 16th century belongs to the post-Reformation church treasures from the golden period of church culture.

Eiderstedt is home to a large number of individual dwelling mounds which can be recognized as mound villages and former Hallig mounds. It can be stated here that these sites represent the most desirable locations for dwellings and farmsteads from earliest habitation to the present day, in particular for the imposing large kind of farmhouse native to Eiderstedt – the „Haubarg". Some dwelling mounds have fallen into disuse after fires or been abandoned after the farmstead was demolished. They are normally included as pasturage. The large „Schockenbüll" dwelling mound, located in the Marschkoog of Tetenbüll on the formerly navigable tidal gully, serves as one example. A wide area of reeds has evolved along a waterway here, for centuries

providing the building material for thatched houses.

With Poppenbüll's oldest polders, Osterhever and Westerhever – with their traditional church, parsonage, school and pub forming the community's center – many Hallig dwelling mounds have been retained from that portion of the foreshore once encircled by ring dykes. „Sieversbüll" (Westerhever) has two Haubarg buildings where once three stood and „Stuffhusen" boasts a single Haubarg and other structures closely tied to Hallig building tradition.

An old village mound of surprising height and mass named „Op'n Dörp" is located in the village of Osterhever. In 1837 J. von Schröder noted: „Houses on top of the mound are still called 'the village'".

The village mounds of the polders which were eventually surrounded by ring-dykes are flatter. An example of this is the Sieversflether Koog (1610) with its „Rich Man's Row" – originally a series of six Haubarge, five of which still stand – their approach following a long, uniformly laid out path running across the middle of the polder. Settlement structures follow along similar lines in the Altaugustenkoog (1611) and the Neuaugustenkoog (1699). Here the Haubarg buildings also stand in single file on the flat farmstead land with a square-shaped system of ditches surrounding the entire compound. Water runoff and the ground water of the ditches pass through the natural filter of the reeds and sedge growth, providing a fresh water supply to the people and their livestock. Examples of this circular system of ditches surrounding the sod farmstead mounds are known that date from the period of settlement after Christianisation.

At strategically important, well-fortified compounds such as the one in Hoyersworth (constructed by Caspar Hoyer from 1591 to 1594) and in Wolfenbüll (Marschkoog Tetenbüll) the farmstead mounds are encircled by a system of ditches with intermediate pastureland, called „Blök" or „Bleeke". These were also fitted with a drawbridge for security. Impenetrable briar hedges protected the mound with additional protection afforded by a large stand of ash, willow and elm trees.

The Hoyerswort castle is the former residence of the lease-holders and the only patrician building in the landscape. It is well-preserved thanks to being listed on the national registry of historical monuments (Fig. 4.49). A local family runs a farm and tends the compound, including a renovated farming Haubarg building, while applying traditional methods.

The population density in the 17th and 18th centuries, the period when Haubarg buildings were built, was higher than it is today.

The Haubarg buildings

The Dreilande „Utholm", „Everschop" and „Eiderstedt" were granted common land rights in Lower German in 1572 and a common seal in 1613. This was the period in which the three districts merged due to the completion of the dykeworks and drainage measures.

At the wish of the duke and because of the financial interest of the Dutch in earning money by applying their technical expertise in dyke building and drainage construction in beyond their own borders, Dutch dyke builders came to Eiderstedt as early as the 16th century, followed by investors and farmers.

The special feature of housebuilding in North Frisia - the famous Eiderstedt Haubarg – originated here. As expert builders the Dutch brought with them to the area their mighty house design, as well as the Dutch windmill with rotating cap, modern methods in dairy farming („Holländereien"), and among other things techniques for cultivating rape, which continues to be rotated with wheat to this day.

In 1619 at the confluence of the Eider and Treene, an uninhabitable wetland, the Dutch founded Friedrichstadt. As a privilege granted by Duke Frederick, seven different churches provided a place of worship for people being persecuted for their faith. Friedrichstadt has stepped gable houses from the 17th century and is very well-preserved. With its Dutch ambience, it is also a magnet for tourists. In 1625 the duke and Dutch counterparts predominantly from Catholic Brabant as well as other contractual parties entered into an agreement to build new dykes around Nordstrand and settle it. The imposed agreement by the duke also guaranteed privileges to the parties involved. The Dutch settlers and their lease-holders thus gained ownership of large areas of land. Unlike the situation in Eiderstedt, a map dating from 1725 only provides evidence of one Haubarg structure.

Due to constant renovation of farm buildings on Nordstrand, there are only a few remaining specimens of the imposing longhouses with entryways on the side, which may also be the predecessors of Eiderstedt's stock of Haubarg buildings.

During the same period, in Holland polders were being reclaimed from the grasps of the sea. The Beemster in the north of Holland was thus reclaimed by means of dykes and Dutch pumping mills around 1612 – 1620. The bountiful harvests which were reaped led to that area being called Holland's pleasure-garden in 1640. The singular impression made by the many „Stelp" farmsteads is well-known. These farmsteads were built on the newly reclaimed polders using a building style derived from the Frisian gulf house. „Stelp" and „Haubarg" building styles are very similar in their design and construction and are related to the gulf houses with their large square central room – the „gulf" or „barg".

The novel and modernizing effect of these two types of buildings can be attributed to the spaciousness of the interior, which required less wood to construct a substantial amount of storage space. This stood in stark contrast to gulf longhouses and their more narrowly spaced joists. The Haubarg is a typical marshland house, serving as stables for dairy cattle feeding on coarse fodder while also being suitable for farming harvest-rich crops (Figs. 4.50 – 4.52).

The gaps between the half-timbering (horizontal wooden frames) are maximized, thus producing an impressive square space between only four posts.

The living area (Vörhus) and combined stable-barn (Achterhus) with the threshing floor and stables for cattle and horses running along the building's length constitute the parts of the multi-purpose dwelling. Six-post and eight-post variations of this design add a correspondingly larger number of spacious central storage rooms. The old method of using wall ties allow the posts to be spaced farther apart cross-wise and stabilizes its construction – an important feature for withstanding the strong winds of the coastal region. The large hip-roofed thatching rests on crossbeams and rafters of a four-post square frame. Lacking a nearby source, wood needed as a building material had to be imported from Pomerania and Norway while oak was initially taken from the geest. By 1588 the use of bricks for house construction was already required by ducal decree. Shell lime was supplied by ship from the Netherlands; on Eiderstedt two lime-kilns have been documented from the 19th century as well as a large number of brickworks. Today, no brickworks exist on the peninsula any more.

The Haubarg followed its own course of development. „Dutch immigrants built the first known Barghaus on Eiderstedt as early as 1605. In Freesenkoog (near Friedrichstadt) the first Haubarg buildings were probably built in 1611" (Knottnerus, 1997, pp. 94 – 99).

The entry recorded by Peter Sax in 1636 only makes one reference to a structure of this kind. Describing the villages of Kaltenhörn and Büttel (Koldenbüttel), he notes that: „.... the pond, of Johan Philip of Hertingeshusen's Hewberg on....". The construction of Haubarg buildings was common around 1650. There are some Haubarg buildings which have integrated the previous Frisian longhouse at the home site in full or remnants of it. Among other things, this led to various ground plans and exterior forms. The Red Haubarg was erected as a ducal building and is the highest and largest of this type. The Haubarg was first built in 1659 using „red roof tiles" – a costly measure rather than using conventional thatching, the hall in the upper floor was also an indulgence, displacing a room where normally grain would have been stored. In 1759 the present building was erected in the wake of a fire. The building was restored completely in 1983/84 with support from the state registry of historical monuments and is home to an agricultural museum and restaurant (Fig. 4.51). The Matthießen Haubarg in Brösum near St.Peter-Ording, the Kühl'sche Haubarg near Katharinenheerd and the Tetenbüll „Staatshof" (all fine specimens) have preserved façades and noteworthy details dating back to the 18th century (Fig. 4.50). Only one example of inner furnishings has been preserved from the period. These furnishings can be viewed in the Rotelau Haubarg, which was relocated to a Copenhagen open-air museum in 1959. The Poppenbüll Holmhof (1870) has original elements such as a multi-gabled Haubarg barn featuring side entryways with a passageway connecting it to separate living quarters.

There are numeros examples of well-preserved cottages of day laborers, which are built in the Haubarg style. These small half-timbered houses, which are also related to the Uthlande house in their extended form as small farmsteads, no longer make use of an inner joist-supported structure, but instead have roof beams set on solid masonry with wallboard. There is only one known example of a house using an inner joist-supported frame on Eiderstedt – it was a smokehouse located in Poppenbüll, which burned down in 1990 after being condemned before that. Studies have shown that the smokehouse's frame came from the Helmfleth Hallig dwelling

mound, the last remains of an Uthlande house on Eiderstedt, testifying to the peninsula's place within the North Frisian architectural landscape.

„Haubarg" buildings in danger

The existence of Haubarg buildings has been threatened from the middle of the 19th century to the present day. A large number have been torn down over the years: of the 400 Haubarg buildings recorded in 1795 (chronicler Volckmarus Carolus), only 370 were counted in 1860, in 1930 only 160 were still standing and today approximately 70 such structures still exist, some of which have only retained their inner frame and outer building structure. These heavy losses point to the transformation of agricultural methods which began in the middle of the 19th century.

The change from dairying and raising grain crops to grazing oxen for lucrative export trade with England from 1846 to about 1890 meant that there was no longer a need to utilize the space provided by Haubarg buildings. Around 1900, statistics on land use show that 14 % of the land was being farmed and 86 % covered by greenspace in Eiderstedt, whereas in 1800 the proportions were 40 % for farming and 60 % for greenspace (Hammerich, 1984).

A new type of farmstead evolved during the period of Prussian rule starting in 1870. Its separate living quarters and farm buildings have a flat sloping board roof and hayloft wrapped in tin sheeting. This style of building continued to be constructed until 1960. However, unlike in Dithmarschen, the Haubarg has continued to dominate the landscape in Eiderstedt.

Today, the farm buildings with loosebox stables being constructed for fattening bulls, for housing dairying lines or for stowing straw and implements reveal the contemporary needs of farmers. Planned alterations to the original building structure of the Haubarg buildings are considered uneconomical and the cost of constantly maintaining and insuring the thatched roofs is also seen as a burden. A Haubarg has approximately 1000 sqm of thatching worth EUR 100,000. There are Haubarg buildings being fully utilized which are completely covered with metal siding, thus pointing to the maintenance costs for manual labor as the prime cause of the Haubarg's demise today. The simplest solution chosen by farmers is building new multi-purpose buildings for a fixed price, sometimes while doing the construction themselves. In this way, year for year, Haubarg buildings are being sold to people from outside the area who are not in the business of farming. Conversion of these buildings to other uses involves thorough restoration and their preservation. Unfortunately, there are also a large number of alterations made to these buildings which are inappropriate to the building design. These are carried out to accommodate larger numbers of holiday visitors. This reduces the Haubarg to the level of a „trademark".

These buildings can still be experienced, much to the pleasure of their owners and the delight of tourists. Speaking only of the Eiderstedt peninsula – Haubarg buildings and the landscape so tellingly graced by these buildings are unique and irreplaceable treasures of our cultural heritage.

4.3.2.4 Dithmarschen – North and South Dithmarschen

The district and its settlement structure

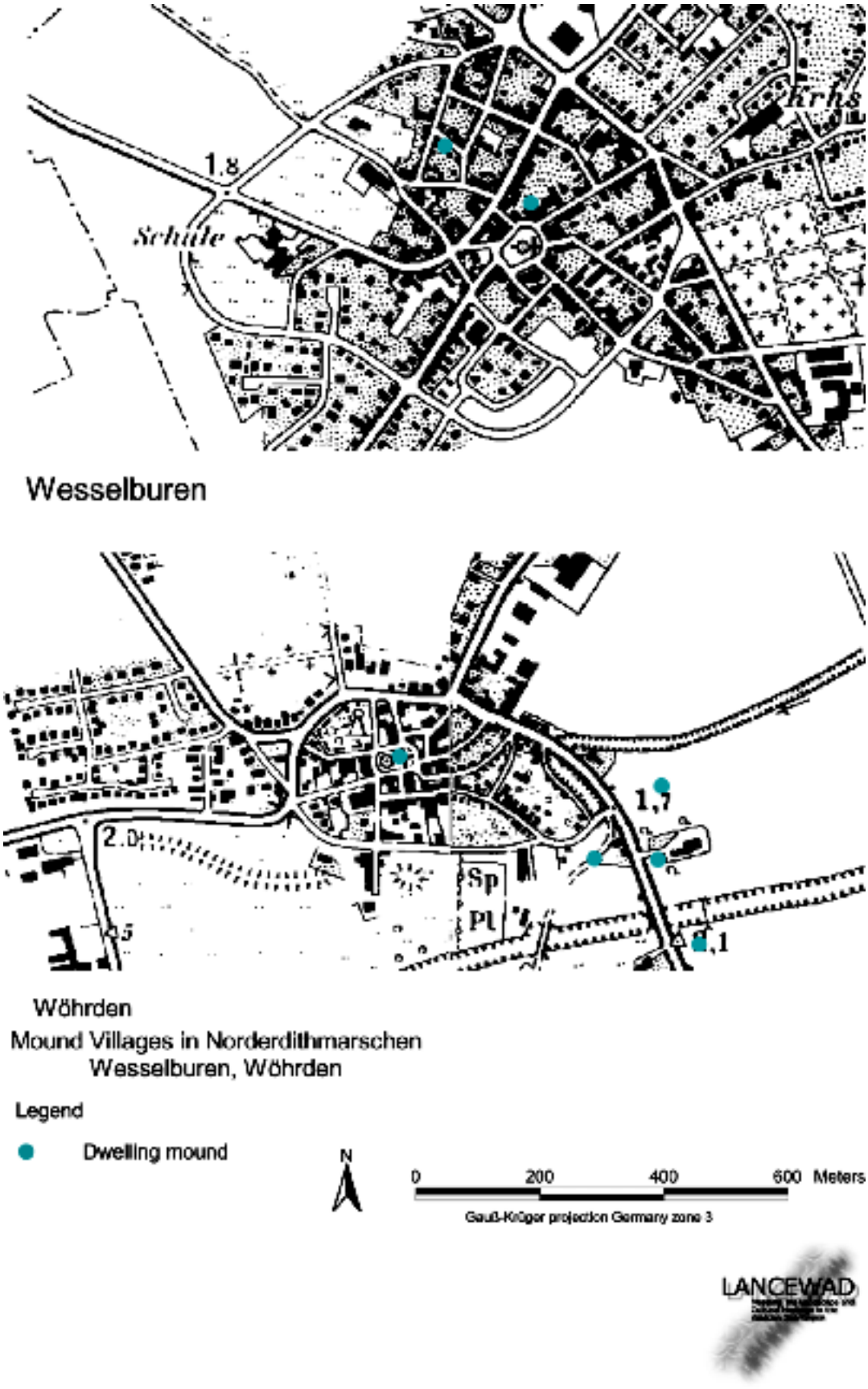
Churches and parishes

The district of Dithmarschen known to us today – bounded by the Eider in the north and the Elbe in the south – is made up of Norddithmarschen with its seat of local government in Heide and Süddithmarschen with its seat of local government in Meldorf. Meldorf was founded in the Middle Ages as the district's main city on a spit of geest, well above the surrounding countryside.

The old moraine geest ridge and spits of land partially covered by dunes („Donn"), such as near Michaelisdonn, and partial formation of a cliff face („Kleve"), like the one at the approach to the village of Kleve near Hennstedt, provided desirable settlement locations while reminding the observer of the earlier North Sea surf which 6,500 years ago broke on the shore far inland from today's coast. The „first-generation" parishes of Meldorf, Tellingstedt, Weddingstedt, Süderhastedt are located here.

After the annexation of Saxon territories during the reign of Charlemagne and the ensuing missionary effort, Meldorf was the first and thus oldest church built in Dithmarschen (before 826). Today, the church is the most important large Gothic monument (1250 - 1300) of the region, though it has a neo-Gothic spire which was added later. The Carolingian-Saxon ramparts and castle fortresses still exist in both Stelle (Norddithmarschen) and Burg (Süddithmarschen) on the upland geest edge, affording a broad view of the marsh. The churches atop village mounds in the marsh have developed into circular settlements whose distinguishing fea-

Fig. 4.35:
Mound villages
Wesselburen and Wörden



tures are a ring road surrounding the churchyard with streets radiating outwards. Wöhrden and Wesselburen are well-preserved examples demonstrating this pattern.

The church at Wesselburen still holds remains of the round Romanesque fieldstone tower from the 12th century. The church and provincial government (seat of the parish vestry) from 1737 are a further indication of the power and wealth of local farmers. The parishes of the 12th and 13th centuries remain centers of power to this day for the farming population both among geest and marsh farmers. Preserved Romanesque churches in Dithmarschen are long hall churches of fieldstone (Lunden, Hennstedt) with belfries partly made of wood (Hemme, Lunden). The villages are largely preserved in their original layout and, due to their agrarian structures, have been spared sprawl or aimless development except for new residential subdivisions. The alteration of many historic buildings, especially their demolition during the post-war economic boom have taken their toll on the cityscapes. There are only scattered examples of the earliest half-timbered frame construction, e.g. the „Material Storehouse" in Wöhrden in the Hafenstraße dating from 1519, as well as the former Meldorf vicarage in Papenstraße dating from 1601.

The rows of dwellings found in the earliest settlements stretching along a north-south axis on the old marsh and the later development of single-farmstead settlements on the low-lying areas clearly mark the structure of modern-day marshland villages. Farmsteads line up side by side with tree-covered ditch systems along their flanks. The typical farmstead houses which arose over various periods are found here. Large-estate farmers have farmsteads dating primarily from the final decades of the 19th century up until the beginning of the following century. An upsurge in the farming economy of the 19th century allowed the construction of new buildings. Thus, in Tiebensee, Wennemannswisch, and Jarrenwisch and at other points in the region farmstead compounds nearly take on the dimensions of a farming estate.

The polders situated off the old marsh and its village mounds and single-farmstead settlements from between 1600 – 1970 form a system subject to various regulative forces. The house design and the division of farming land are determined by the settlers and the architectural period. On the geest ridges villages developed without following a set structural pattern. The field edges follow the irregular course of the reclaimed plots of land which were cultivated cooperatively until the reapportionment of land into larger plots during the 18th century. This was the primary factor behind the development of clustered villages. Villages near towns expanded and developed into more densely populated residential communities with a large number of new detached homes in all manner of styles and positions in the town. The once harmonious appearance of villages with uniform hip-roofed structures within the landscape of residential buildings is now history.

Marsh plot settlements with a row of farmsteads set off from each other are weathering these changes more auspiciously. This settlement structure is being disturbed at many places through the subdivision of building property to accommodate single-family homes. Moreover, new commercial buildings are being built, including windowless sheds to replace former farmstead sites on mounds which now have nobody living there. The tourist industry also makes use of some existing buildings. However, the sites which are operating as farmsteads with large immaculate front yards easily predominate the scene. These farmers have chosen to live with the changes required of buildings used in modern agriculture. The cultivation of cabbage and vegetables requires large stacks of crates to stand nearby in the open or in nearby buildings along with tractors and front-end loaders.

The landscape heritage of agrarian buildings

The North German bay hall house/The „Dwer" house/The „Barg" barn /The East Frisian gulf house

Presenting the history of agrarian building development in Dithmarschen is difficult. First, there are no inventories using modern investigation methodology, and additionally most architectural historians will emphasize the problem:

„The development of the farmhouse is more elaborate here than it has been in Elbmarschen" (Lehmann, 1927, p. 63).

„The houses themselves are difficult to sort out..." (Wolf, 1940, p. 151).

„The Dithmarschen geest was once an area of houses in the Lower Saxon style. These have all disappeared" (Lehmann, 1927, p. 82).

As is the case with urban buildings, the oldest type of structure in Dithmarschen uses half-timber frame construction. In 1907 a North German bay hall house dating from 1700 was successfully preserved in Osterrade. It was relocated to

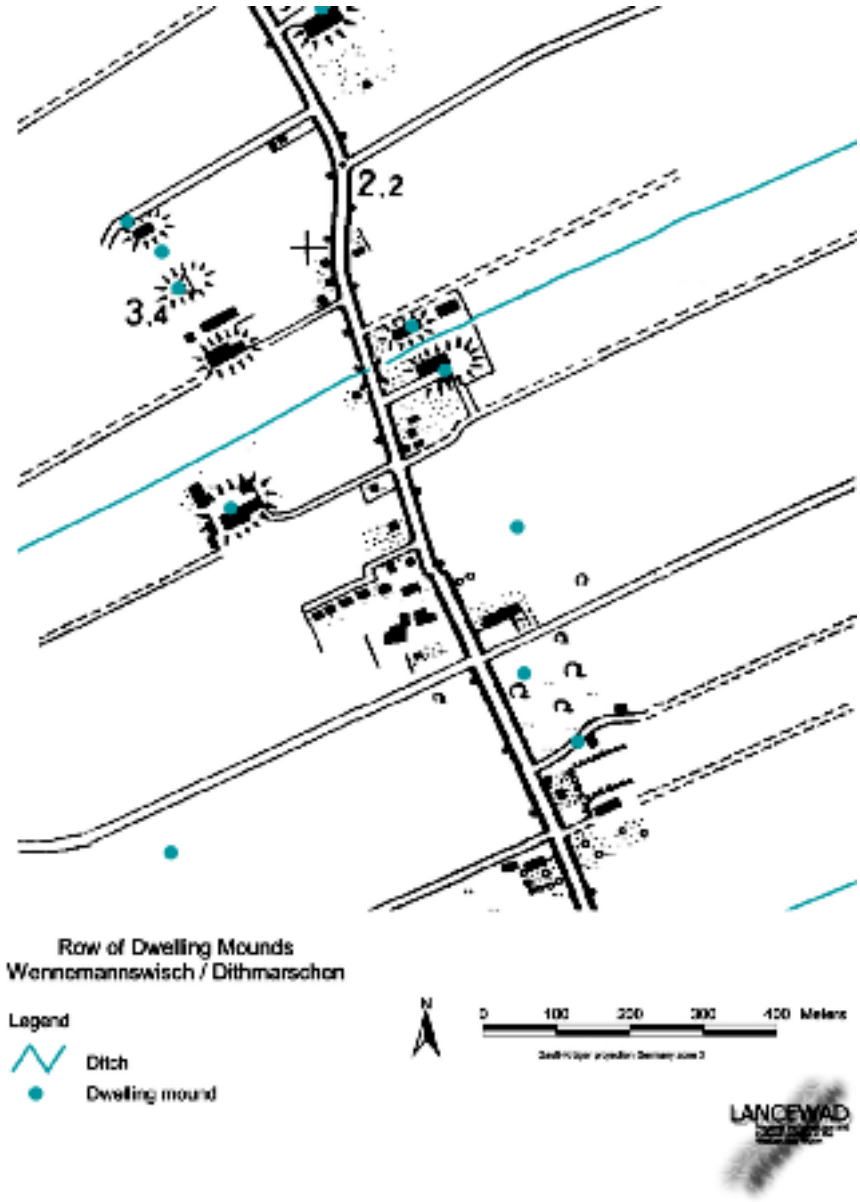


Fig. 4.36:
Row of dwelling mounds, Dithmarschen

Meldorf to serve as the centerpiece of an open-air museum and now provides visitors with an impression of how people lived in this „Dutch-style" building (Fig. 4.53).

As the geest agriculture became more economically stable in the 19th century, the larger house design called the „Dwer" house became more common on this less fertile soil. The „Dwer" house („Dwer" is a Low German term meaning „cross-wise"), which researchers of this architecture have dated back to 1600 takes on the building structure of the Saxon bay house, but the distinguishing feature of this Dithmarschen house is an entryway to the living quarters, work areas and stables or barn away from the gable front.

As of 1800, the work area of the „Dwer" house took on the Frisian gulf house design, most likely to enlarge the storage space and improve the use of the building. That is why there are two kinds of farmstead. As is the case in the Wistermarsch, the Saxon design is combined with the Frisian gulf frame construction. It cannot necessarily be seen if a building uses gulf house design without looking inside.

That is one difficulty posed when completing an inventory. There is an apparently well-preserved building located on the national highway in Epenwöhrden, with remnants of Frisian roof framework, that will probably be torn down due to its proximity to the road (Fig. 4.54).

In order to improve the appearance of the home, some houses are having a vestibule added to the living area in the front gable. At the same time, farmsteads of Saxon design have had a side gable added on the eaves side as an entryway to a large transverse vestibule, such as the at the Löwenhof farm in Süddithmarschen.

The „Dwer" house came to be typical for Dithmarschen farmhouses of varying dimension and variation as described above, yet many impressive farmsteads have fallen victim to new development.

„Around 1850 agricultural life underwent significant transformation as yet unequalled in recorded history – through so-called industrialisation" (Nissen, 1999). This historical development had a marked effect on Dithmarschen and led to changes and a transformation of farmhouse culture. The „founder years" of agricultural building activity, which chose to emphasize representative homes as well as farm buildings on an extensive scale from the turn of the century up to the 1930s, led to the demise of a large number of the older „Dwer" houses. Partial demolition also led to alterations: While the shorter living area of „Dwer" houses is left intact, the working area is redesigned by building an extension directly onto the half-hip roof which rests on the sill beam. This annexe usually has metal siding with a flat sloping roof. Building alterations of this type are still being carried out today.

The „Barg" barn with a square four-post construction is based on an older Frisian tradition in Dithmarschen and was built as a supplementary building on farmsteads as early as the first half of the 17th century. „A farmstead in the southern Dithmarschen area is not complete without a Frisian barn" (Saeftel, 1930, p. 44). At the time of his publication, Saeftel already pointed out that no inventory had been completed. Especially in the north of Dithmarschen, a large number of Barg barns of both modest and more sizeable dimensions still exist today. However, they are threatened by a lack of upkeep. The traditional thatched roofing has given way to Eternit (fire-retardant roofing) or sheet metal (Fig 4.55).

The vibrant history of home building in Dithmarschen with its varying Dutch influences is also testified to through the documentation of 17 „Haubarg" buildings by Saeftel, of which none have survived.

The East Frisian gulf house, which was the type of dwelling used to settle the Kronprinzenkoog in 1787, has a distinctive building style with entry to the stables and large hall from the side. It also has an additional hall doorway in the recessed living area of the building, providing a practical solution for passing through the building so typical for the East Frisian gulf house (Fig. 4.56). This building design was brought to this fertile land from East Frisia and has vast dimensions. The abundant crops harvested on the new polders required large buildings with a high-ceilinged storage area for stacking the unthreshed grain. Many of these gulf houses are still preserved on the polder, despite the addition of contemporary farm utility buildings to the complexes.

The most recently dyked polders dating from the 1930s such as Dieksanderkoog, which was renamed from the former name of „Adolf-Hitler-Koog" in 1945, form a part of Dithmarschen's history.

The farmsteads built in 1933 to exemplify „traditional" construction of the period still exist today, including the „Neulandhalle", which served as a cultural focal point and educational retreat for the National Socialist party for disseminating its „race-and-fatherland" ideology. The dyking of the polder began in 1933 accompanied by party propaganda: „Digging in with spades as their weapons, German youth create new German territory under Compulsory National Labour Service".

This traditional farming area also attracts tourists due to its attractive location facing the sea. Thus, over time, the buildings are changing in their make-up – at random.

Much as it did in North Frisia, the Dutch windmills of the 18th and 19th centuries took their place as an evolving part of the farm building landscape. In Dithmarschen 15 mills have been converted and thus been preserved within the landscape.

The Dutch outside cap winder „Aurora" (Latin for „dawn") dating from 1880 is located in Weddingstedt and stopped operation in 1960. It survived as a derelict torso and has only been restored very recently. In Hochdonn a windmill also named „Aurora" could no longer operate when the train bridge crossing the North Sea-Baltic Sea canal was built in 1920, blocking the normal path of the wind. It was then electrified and is used as a home today.

The historical and economic factors contributing to the flourishing farmhouse culture in Dithmarschen is distinguished by its continuity. The excellent trade routes of the Elbe and Eider provided convenient access to Hanseatic cities –

particularly Hamburg and Bremen – and led to the establishment of a flourishing exchange of goods as early as the Middle Ages. Land ownership and wealth was wielded by the powerful dynasty of farming clans who worked in cooperative associations.

The region remained independent of noble rule until 1559. Witnesses to this age are the cemetery with vaulted tombs for the ruling class of farmers at the churchyard in Lunden and the excellently appointed main room of the Marcus Swyn house from 1568, who was chief parish warden, farmer, trader and shipowner all in one (Landesmuseum Meldorf). The Schmielau farmstead in Lehe/Dithmarschen dating from 1781 can be visited at the open-air museum in Molfsee near Kiel and its manorial furnishings provide an impression of the wealth at the time. It has also been handed down that geest farmers and the rich marsh farmers avoided contact on the Heide horse market and that marriage between the two classes was frowned upon.

The key requirements for successful farming are met in Dithmarschen: outstanding soil quality which can easily be cultivated and a favorable climate.

The forms of agricultural operations include extensive and intensive farming – both of grain crops and vegetables – as well as fruit orchards. The most commonly found farm produce in Dithmarschen includes cabbage, sugarbeets and potatoes. Horses have always been bred in Dithmarschen as part of its livestock, a tradition which is continued to this day.

Despite the changes of the 19th century, the heritage of agrarian homes in Dithmarschen represents a valuable store of concealed building materials which cannot be catalogued through mere observation and has yet to be cartographically researched. In Bargholz a preserved bay hall house from the 18th century was discovered which was believed to be „extinct". The greater public's awareness of the importance of these buildings seems to be less deeply instilled. This region has not been as strongly exposed to the numbers of tourists found in North Frisia. The region around Büsum is one exception. When converting these buildings to an alternative use – except for rare exceptions – renovation work unfortunately involves the use of popular sale items found in home improvement centers. There is no special interest group for the preservation of historical buildings found here like in North Frisia, where a special interest group named „Interessengemeinschaft zur Bewahrung historischer Bausubstanz" [Society for the Preservation of Historical Buildings] has successfully contributed to the preservation of countless historical buildings. Thus, in Dithmarschen no inventory of the farmhouses and barns mentioned above has been completed. The area's farm building heritage is made distinctive by the blend of Saxon and Frisian influences on its building culture.

4.3.3 References

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