

## 4.4 Lower Saxony

### 4.4 The Lower Saxony Wadden Sea Region

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#### 4.4.1 The land between Elbe and Weser (Elbe-Weser Districts)

##### 4.4.1.1 Introduction

The marsh areas between the Weser and the Elbe, which for the most part form part of the Cuxhaven administrative district, may be divided into three different geographic and cultural units. In the north, the line of the terminal moraine of the Hohe Lieth, the so-called Wurster Heide, separates the Wurster Marsch on the Weser mouth in the west from the district of Land Hadeln on the Elbe mouth. To the south of Bremerhaven the districts of Landwürden and Osterstade lie along the Weser. Their geological genesis as well as the histories of their settlement until the High Middle Ages are very similar in their essentials, so that these can be described together.

The marshes were formed under the influence of the rise in the sea level after the last ice age and for the most part are barely raised above the mean sea level. Apart from the varied composition of the soil, it is the difference in level between the recent (high) marsh and the old (low) marsh that plays the decisive role for the settlement and the utilization of the marsh. Due to differing conditions for sedimentation before the dykes were built, the marshes are subdivided into highlands with sandy, chalky soils, near the coast or the river banks, and the Sietland behind them which is lower lying as a result of the short supply of sediment, has soils rich in clay, and especially on the geest edge is mostly made boggy from being saturated with water and is therefore inimical to settlement. In the whole region, the Sietland was only put under cultivation very late and with little success. Where it was systematically drained, the boggy subsoil shrank so that in the long run there was hardly any improvement. These days the old marsh lies in front of the higher, sandy geest in the form of virtually unsettled strips of grassland. In the dis-

trict of Land Wursten, directly west of the Hohe Lieth, it is bounded by two distinct lines: in the east by the Grauwall canal that was enlarged in the 1950s, and in the west by the Bremerhaven-Cuxhaven railway line that runs on the eastern edge of the high marsh with its relatively firm ground.

The first settlement on a major scale on the sea walls and surf embankments on the outer edge of the old marsh took place in the last century B.C. Although scattered traces of older settlements from the iron age were found on the higher parts of the banks, only the uptake of land from the first century left behind permanent traces in the cultural landscape. As the farms and villages were first laid out on level ground, the ever increasing tidal storm surges that were running on shore forced the settlers to rebuild their farms and eventually whole villages on dwelling mounds that had to be thrown up higher and higher. In the district of Land Hadeln, Lüd-ingworth and the adjacent sea mounds are impressive examples of the dwelling mounds constructed along the Elbe during the Roman empire. In the district of Osterstade, Aschwarden and Wurthfleth were developed along the Weser. The examples that have been most thoroughly investigated in the district of Land Wursten are the line of village mounds set up in the first century and abandoned in the time of the migration of the peoples: starting from Dingen in the south, through Mulsum and Dorum as far as Alsum in the north. The three big dwelling mounds in the southern district of Land Wursten, the Barward, Fallward, and Feddersen Wierde, still lie vacant in the area today. The excavations of the Feddersen Wierde have produced an impressive amount of evidence on the genesis of settlement on the surf embankment from the late iron age. The extensive finds from Saxon graves from the Fallward emphasize the economic appeal of the marsh settlements. Heightened storm surge activity nonetheless led to the settlement region being abandoned in the fifth century.

A few centuries later, the strings of dwelling mounds again formed the starting point for the renewed acquisition of land by settler groups that then began afresh in the 7th and 8th centuries. In the district of Land Wursten these came from outside for the first time, from the west Frisian North Sea coast (in the Late Middle Ages this was to become much more common with the colonization of the marshes by Hollanders, as the west Frisians were known at the

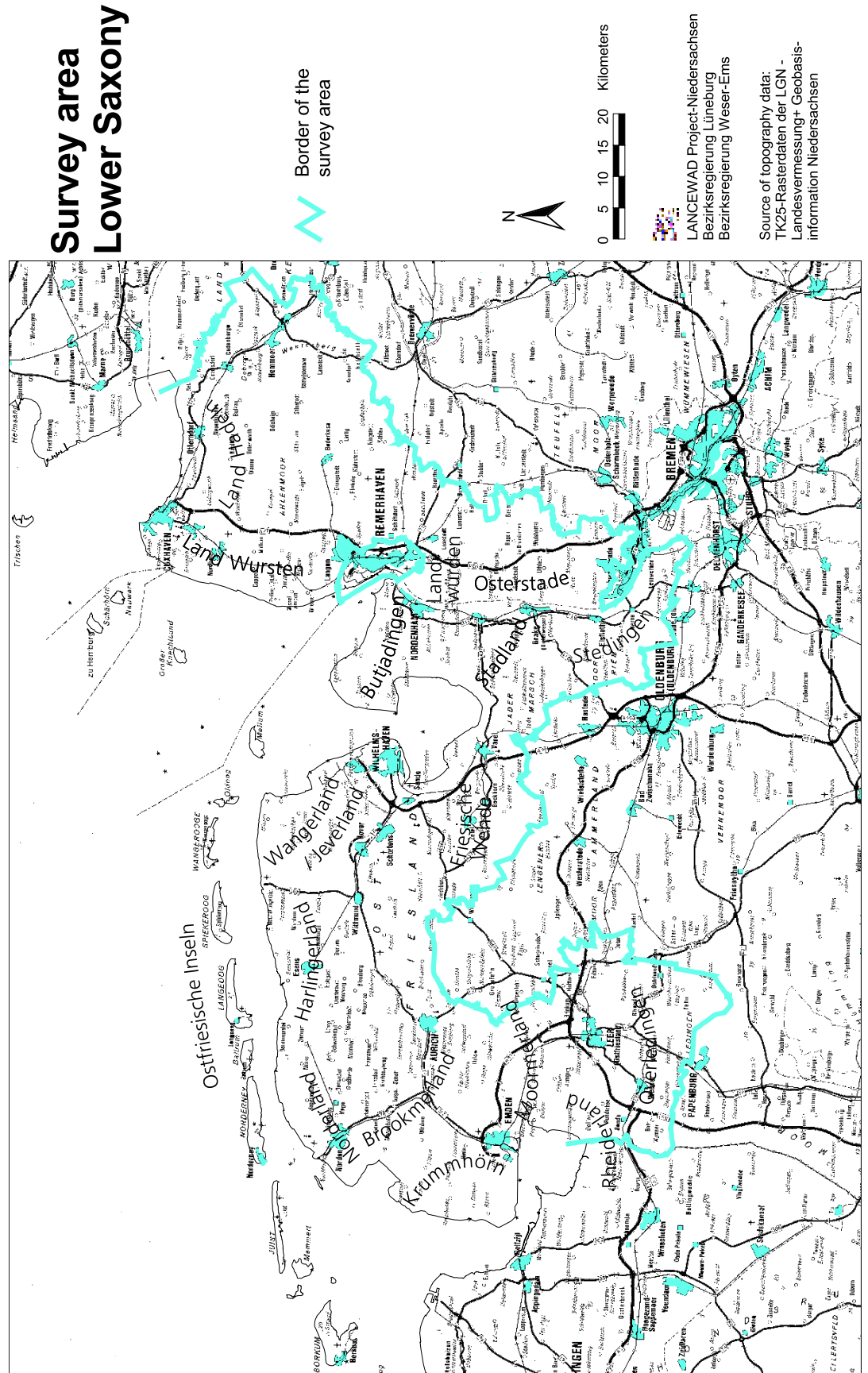


Fig. 4.57:  
Survey area Lower Saxony

time). The silting up of the mud flats, however, made it possible for the higher, fertile uncultivated land to be settled quite soon. The two village mounds of Wremen and Misselwarden in the district of Land Wursten attest to this uptake of land, as do Altenbruch, Otterndorf or Belum in the district of Land Hadeln.

The process of establishing settlements on the newly reclaimed land is related to the building of the early dykes in both the districts of Land Wursten and Land Hadeln. We are particularly well informed about the complexity and the chronology of dyke building in the district of Land Wursten. The dyking was carried out along the three main lines of Oberstrich (upstream dyke), Niederstrich (downstream dyke) and Altendeich (old dyke) which run from south-south-west to north-north-east, with ribbon-shaped meadows arranged in perpendicular fashion, and with a drainage canal for each district, all of which together characterize the district of Land Wursten between Solthörn in the south and Deichsende (dyke's end) near Nordholz.

The first completed line of dykes in the district of Land Wursten, the upstream one, is probably a summer dyke, on the inner side of which most of the dwelling mounds today lie deserted. Since the creation of the oldest living levels in the 12th and 13th centuries during the Late Middle Ages, they were thrown up to a height of about 4 m above sea level. The foreshore that was subsequently formed was protected by the downstream dyke, erected in the 14th and 15th centuries as a winter dyke. Therefore the row of dwelling mounds accompanying it reach only a relatively small height. Today only a few fragments of this dyke remain. Its line is followed by the old dyke, also from the Middle Ages, recognizable in many sections as an earthen embankment from one to two meters high.

With the existing line of the sea dyke, recognized as a cultural monument, the development of the land in early modern times reached its conclusion. The building of the present main dyke was begun in 1618. After the storm surges of 1717 and 1825 the dyke was made higher and wider.

Because of their significance for the coastal region, the dykes represent an outstanding cultural-historical document. To a great extent, they contain the construction materials of their predecessors in their core and in their present course they are largely in agreement with that recorded in the land surveys by the Electorate of

Hanover and Prussia. Regrettably, neither in Hadeln nor in Wursten have the historic dykes or their remains been recorded by an archaeological inventory.

As far as the harbor installations, sluices, floodgates or pumping stations are concerned, however, no objects of historical value in the district of Land Wursten have been preserved. In the district of Land Hadeln, in contrast, the measures for controlling the water are clearly visible in many examples in the area (ditches, canal systems up to the Hadeln canal of 1853 and the pumping stations from the 20th century). The stone sluice head from Rechtenfleth has been moved to Osterstade and is preserved there.

Dyke construction and drainage of the land facilitated the increasing settlement and cultivation of the land from the 12th century. In Hadeln, settlers from Holland were brought into the land by the provincial administration. Under their influence, the elongated ribbon or strip villages such as Bülkau were developed. The improvement and stabilization of the natural conditions of the area, culminating in dyke building, led to a clear increase in the economic welfare of the whole marsh region, which may still be seen today, especially in the many churches that have been preserved from the Middle Ages.

The stone churches from the 12th to the 14th centuries form the outstanding type of historic monument in this region because of their number and quality. More often than not, their furnishings are also of great cultural-historical significance. Thus the parish churches of Dedesdorf and Cappel possess valuable Arp Schnitger organs and in Sandstedt there are wall paintings from the 15th century. In the district of Land Wursten, the series of important church buildings begins in the south with Imsum (Ochsenturm) and continues through Wremen, Mulsum, Dorum and Cappel (classicist new building in place of its predecessor from the Middle Ages) to Spieka. To the west lie Misselwarden and Padingbüttel, and to the north Midlum. The plain rectangular hall, covered by a ceiling of wooden beams and with a rectangular or square choir added, was established as a standard type of the massive building being carried out in the 12th century. The choir is joined to the nave by a low arch and usually vaulted only afterwards. The ratio of the length to the width in the Wursten churches is typical of the churches in the settled region of Frisia. The same is true for the arrange-

ment of the portals on the long sides, which are often offset in a westerly direction.

In the district of Land Hadeln, a type of building developed from the 12th century, constructed by means of field stone masonry and consisting of a rectangular hall with a square choir added and a flat ceiling of wooden beams. Churches constructed in this fashion may still be found in Altenbruch, Belum, Ihlienworth, Lüdningworth and Nordleda. There are wooden bell towers in Altenbruch, Bülkau, Ihlienworth, Khedingbruch, Odisheim, Oppeln and Steinau.

The field stone found on the geest served as building material; almost rectangular stones were dressed from larger erratic granite boulders and used to form the corners of buildings as well as window and portal walls (Midlum, Mulsum, Padingbüttel). In addition to the field stone available in the region, sandstone imported from the Weserbergland region was used. During the 12th century, tuff originating from the Eifel region was used increasingly. Occasionally its use was restricted to single parts of the building (see Midlum, Mulsum). Alone among the churches, the Wremen church displays a complete facing of tuff. The first church building made completely of brick in the district of Land Wursten is Misselwarden (end of the 13th century).

Except for the Hamburg tower at Neuwerk, erected in order to control the waterways on the Elbe, no castles or fortified buildings remain in the marsh regions. The sole historic town hall was erected in Otterndorf in 1583. Also worth mentioning are several administrative buildings like the ones in Neuhaus (1723) and Otterndorf (1771) and the customs house of Dedesdorf (1811/1813).

Only a small number of rural building structures of historical value are preserved on farm establishments. The farms lined up along the various strips of settlement in the district of Land Wursten consist of a main house, which is oriented with the working gable towards the west or north-west, and of several outbuildings. The cobbled farmyard in front of the living and working quarters mostly has on its perimeter two (cattle) barns, of double upright construction, with the direction of the roof ridges at right angles to that of the main house. Unlike in the Hadelner Marsch, in this area brick construction, which has been shown to have been in use in the secular field even before 1612, was dominant both for main buildings as well as for the outbuildings. The few half-timbered buildings tend to be constructions that were transplanted by

farmers migrating from the geest into the marsh in the middle of the 18th century. It is true for all the marsh districts, though, that the historic architecture consists above all of 19th century buildings.

Completely preserved brick buildings have come down only from the 18th century and they are of significant dimensions. The upper half of the steep gable is made of boards and, in the district of Land Wursten, they are usually painted green. Over the whole region, as a rule, the roof was thatched – and this is still the case in parts up to the present. The form of the gables of the main building and the large outbuilding, devoid of any decoration, was maintained during the first half of the 19th century. The only features livening up the wall surfaces are wall supports of wrought iron, or a small sandstone slab above the hall entrance with the building owner's name and the date of construction. Since the fifties of the 19th century the verges have been accompanied by stepped brick friezes. In the latter part of the 19th century it was customary to erect the principal building in the form of a hall-house with four supports.

Essential changes to the cultural landscape took place only in modern times. These were primarily due to the greatly accelerated extension of the road network and the provision of energy in the last century. The development of the region by the Bremen-Cuxhaven freeway and the extension of the federal and country roads have permanently changed the perception of the landscape as have the developments in settlement and infrastructure, which are closely linked to the changing traffic patterns. In very few cases, settlements of new buildings blend organically into the existing structures (e.g. Lüdningworth). What is more, they often obscure the views onto the original sights of the locality (e.g. Dorum and Otterndorf).

It goes without saying that considerable alterations to the landscape can also come about in connection with tourism. This is true not only for districts that are exposed to a particularly high level of tourism, such as Cuxhaven (which will not be discussed any further in this regard), but also for smaller sites, such as the Otterndorf bathing lake. Some dwelling mounds from the Middle Ages have been integrated into this setting in „a very special way“.

Numerous wind energy installations have already been erected in both the districts of Land Wursten and Land Hadeln, and more are under construction or are being planned. The main dispute is over the

question of scale – how many wind turbines can a landscape bear? The fact is that the impression of a marsh landscape, flat as a pancake and seemingly endless, with an extremely small number of relatively small vertical elements (e.g. church towers) has been changed drastically as a result of these installations. Today the high, slowly turning wind turbines belong to the modern cultural landscape in just the same way as do the silhouettes of the harbor industry of Bremerhaven or the hotels of Cuxhaven-Duhnen. There are no instances where the individual installations were erected directly on cultural historical monuments, such as dwelling mounds or old dyke lines, and in general they keep a reasonable distance from the individual monuments. The face of the landscape, however, especially in the marshlands, has been radically changed in some districts, and this has occurred within just a few years.

#### 4.4.1.2 Land Hadeln

The district of Land Hadeln is approximately coextensive with the area of what is today the Hadeln and Sietland association of municipalities (Samtgemeinden), with the exception of the town of Cuxhaven. Two geest ridges, the Hohe Lieth and the Lamstedter Geest with the Wingst, run from north to south and attain maximum heights of 38 m and 74 m. The remaining area is flat marshland lying between these geest ridges. This so-called highland reaches a height of about 1.5 m above sea level close to the sea. The old river embankments of the Elbe (from Lüdingworth to Belum), the Medem and the Oste are built to this same height. The sandy marshland, enriched with calcium by repeated deposition, is of outstanding fertility. In contrast the Sietland, situated further inland, lies 0.5 m below sea level and is rather waterlogged.

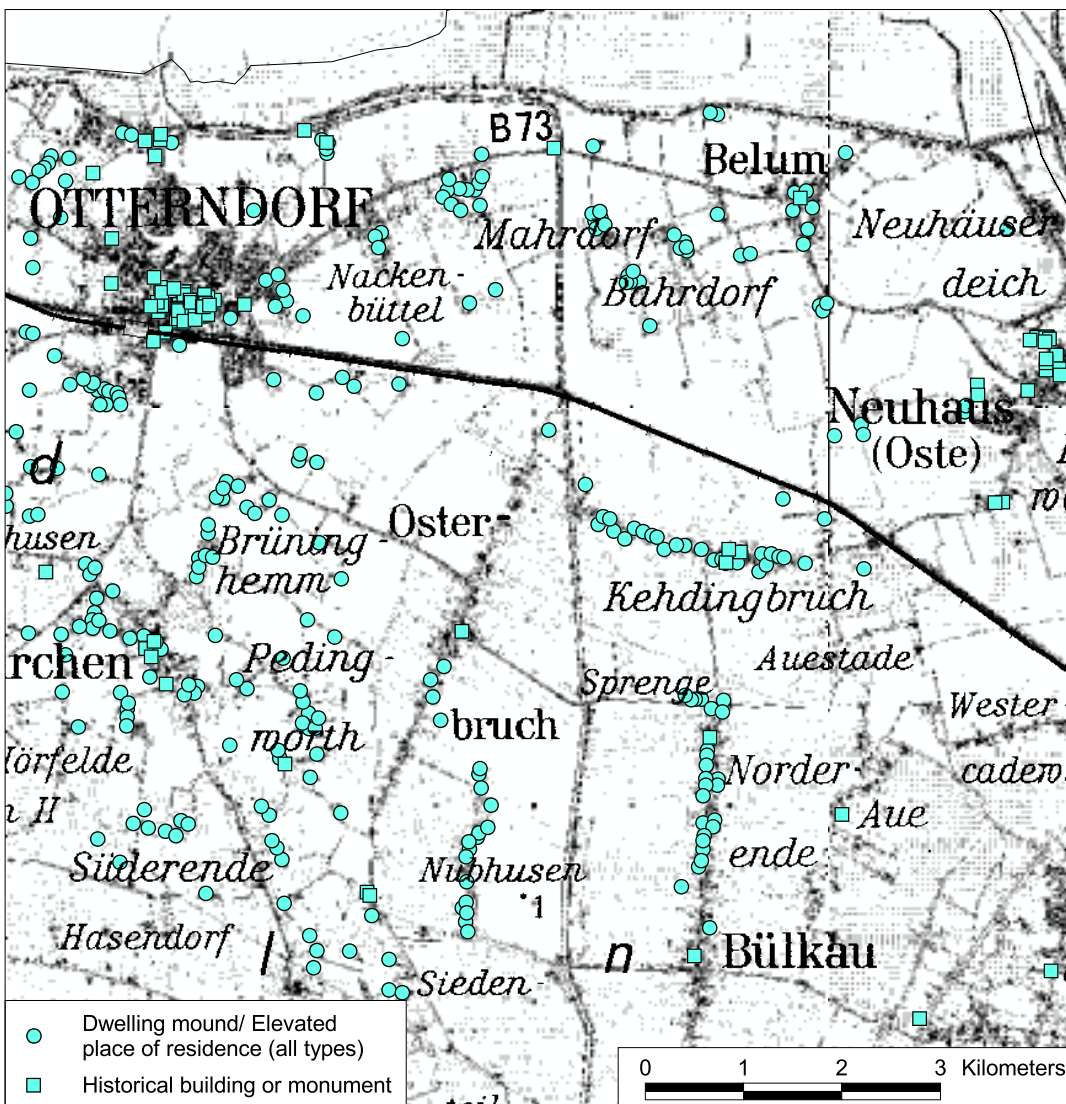


Fig. 4.58:  
The elongated ribbon or strip villages Osterbruch, Kehdingbruch and Bülkau  
Source: LGN

The name of the district of Land Hadeln is derived from that of the old Saxon district of Haduloha (battle wood). The district's conquest by Charlemagne led to what may be its first mention in the archives. At that time Hadeln apparently designated the whole region below the geest ridges from the Weser to the Oste.

Evidence has been found of a first settlement on the Medem dating back to the 4th/3rd century B.C. The rise in the sea level slowed down from the first century B.C. at the latest, so that a permanent settlement of the marsh became possible, starting from the higher river banks. About two centuries later the settlements on the flats had to be raised to protect them from the water. This first phase of mound construction resulted in some impressive examples, such as Lüdingworth and the sea mounds lying further to the east, where dwelling places were raised significantly until the 5th century, when the settlements had to be given up after all. Successful settlement of the region commenced again in the Early Middle Ages, in the 7th and 8th centuries. Once again it started out with settlements on the flats of the marshes, now silted up even higher, to the north of the old dwelling mounds. From the High Middle Ages onwards these settlements also had to be made higher. Altenbruch, Otterndorf and Belum should be mentioned as large village mounds. More recent mound settlements, probably no older than the early dyke building activities in the region, may be recognized by having names ending in „-büttel“.

The birth of the present cultural landscape of Hadeln is connected to the erection of a completed line of dykes - an operation that is inseparably linked with the draining of the interior. According to our present knowledge the first dyke that supported settlement was built in the 12th century. At the same time draining began by means of ditches, canals (Wettern) and sluices (allowing water to pass through the dyke). In this region this kind of work is ongoing and is still being carried out today, with standards improving continually. The work reached its peak in 1853 with the construction of the Hadeln canal, which had become necessary as a result of the silting-up of the beds of the Oste and Medem rivers. This measure also succeeded in ridding the Sietland of its surface water - but as a consequence of this the clayey and boggy subsoil shrank and the Sietland subsided further, so that the advantage gained by drainage was largely lost again. In 1926 the cultivation works reached another peak, with a total of 28 pump-

ing stations being built in Hadeln, the largest of which also happens to be the biggest in Germany.

From the 12th century, the dyke building and drainage of the district facilitated increased settlement and cultivation of the land. The powers that drove this activity and which set the direction were the dukes of Saxony and the archbishops of Bremen. A principal measure was the drafting of settlers from Holland who contributed their expertise in the field of building dykes and canals. Under their influence the elongated row or strip villages were now developed on level ground. Bülkau may serve as an example out of many. At the same time, the communal work of maintaining the dykes and watercourses fostered the independence of the farmers, who at a very early stage became masters of their own land. However, there were setbacks too. The storm surge of 1717, by no means the only one, broke through the dykes and caused great losses in terms of human lives, cattle and buildings. Nevertheless, on the whole it was a positive development. As early as 1600 Hadeln was described as the most fertile region of Germany that grew the most grain. About 1750 an absolute high point was reached in terms of arable land and the cultivation of grain, a fact that is impressively documented by the records of the land register of the Electorate of Hanover. Hadeln then achieved remarkable surpluses in grain harvests, supplied the big cities such as Hamburg and Bremen and exported quantities of grain to Holland, England and Scandinavia.

The completion of the line of dykes and the positive economic development made possible by this also led to an increase in construction activities, which found expression in the register of cultural historic monuments and heritage buildings. From the 12th century onwards there was an increase in church building activity, which was now carried out in the massive or solid style. In the district of Land Hadeln a type of building was developed which featured field stone masonry and consisted of a rectangular hall with an added square choir or chancel. A flat ceiling of wooden beams enclosed the space at the top. Churches built in this style can still be found today in Altenbruch, Belum, Ihlienworth, Lüdingworth and Nordleda. Among them, the western building in Altenbruch is of a special nature, and it has at times been understood as a symbol of the power exercised by dukes of Sachsen-Lauenburg. Towers were frequently added on to a building at a later stage, as was done in

Nordleda, for instance. Wooden bell towers can be found in Altenbruch, Bülkau, Ihlienworth, Khedingbruch, Odisheim, Oppeln and Steinau. After the Thirty Years War the churches in Altenbruch, Ihlienworth and Otterndorf were renovated to an extraordinarily opulent standard, with the work being funded through donations from farmers. A new phase of construction began as a consequence of the agricultural boom in the 18th century and this brought forth the churches in Bülkau and Osten – the latter being particularly lavish.

Castles or fortified houses were on the decline in the district of Land Hadeln as early as the Middle Ages. The only historic town hall was built in Otterndorf in 1583. Administrative buildings were erected following the style of the baroque manor house, which is not to be found in the district of Land Hadeln. The extravagant administrative building of 1723 in Neuhaus and the rather unadorned administrative building of Otterndorf from 1771 are good examples.

The district of Land Hadeln falls within the area of distribution of the Low German bay hall house, more than a hundred of which are listed in the register of historical monuments. They were predominantly built using a double-joisted structure, most commonly based on the ground plan of a bay hall house with a large passageway and a loft. As a rule, the framework is lined with brick masonry, often featuring thatched roofs. The large houses of marsh farmers can have a length of up to 40 meters, with hallways reaching a width of eight to ten meters. To provide the additional storage space required by good harvests, the roof beams can project up to two meters beyond the row of upright supports.

The period of occupation by Napoleon's troops with all its negative repercussions caused this once flourishing countryside to experience a harsh setback. The economy then suffered further blows as a result of falling grain prices starting in the 1820's. From the middle of the 19th century wages rose as a result of the beginning industrialization and towards the end of the same century large numbers of people began moving away into the larger towns and cities, and many emigrated overseas. As a counter movement, farmers in the district of Land Hadeln gradually moved into cattle raising, which was less labour-intensive. Where there had once been rich cultivated fields, grassland gradually took over again.

However, the splendid houses of the farmers and the beautiful churches, sometimes referred

to as farmers' cathedrals, still bear witness to the former prosperity of this region.

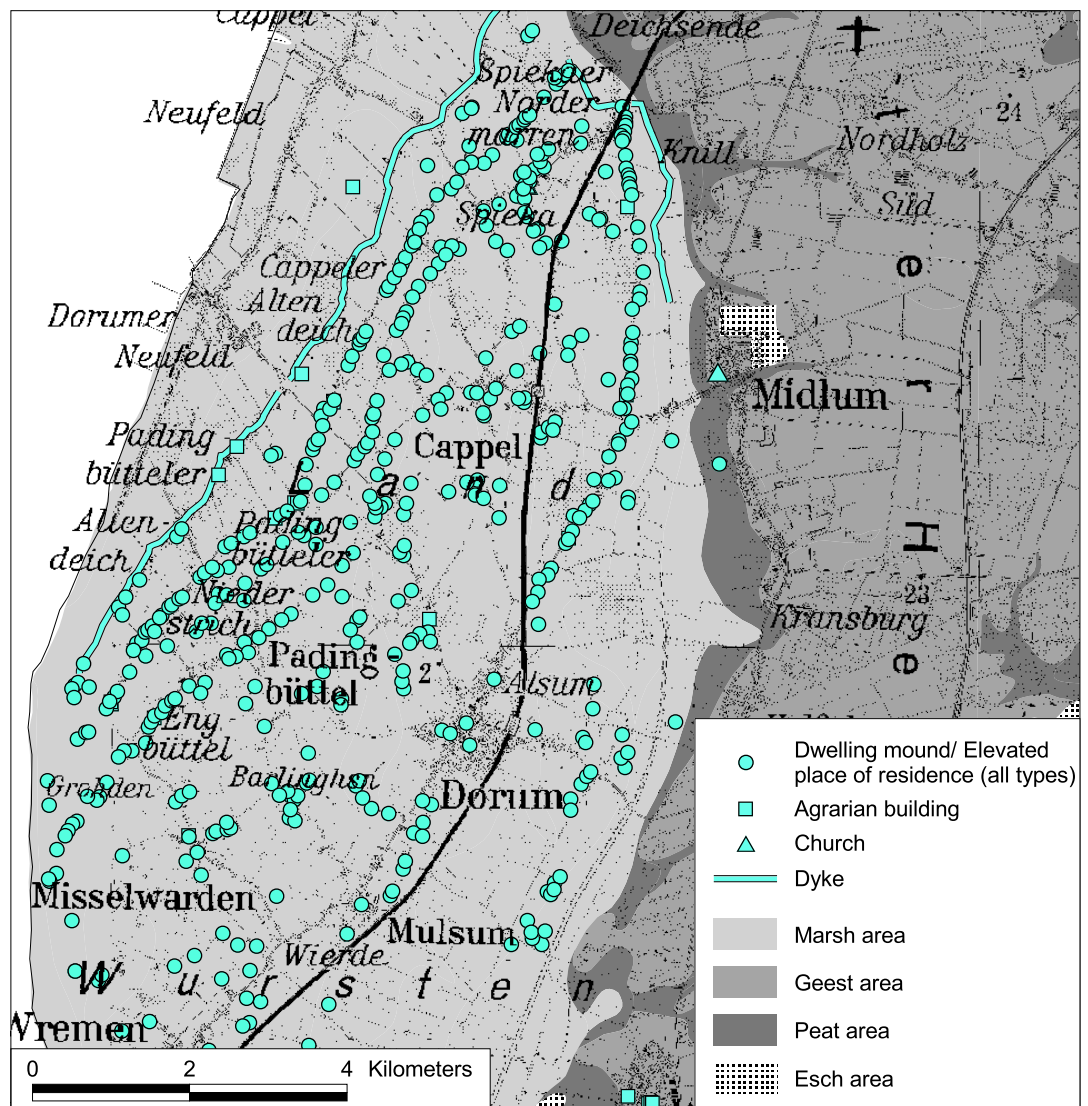
#### 4.4.1.3 Land Wursten

On the right bank of the outer Weser, the Wurster Marsch, which forms part of the Cuxhaven administrative district, extends to the west of the terminal moraine of the Hohe Lieth, the so-called Wurster Heide. This is a belt of salt marsh about 30 kilometers in length, spanning Imsum to Deichsende (dyke's end) and Berensch, which – at Dorum – reaches its maximum width of 9 kilometers. While this area was used for agriculture in many places (especially on the high marsh), due to structural changes since the end of the 19th century it is characterized today by pasture land.

Because they were created relatively recently under the influence of Holocene tides, the marshes are higher than two meters above sea level in only a few spots. Apart from the varied composition of the soil, it is the difference in level between the new (high) marsh and the old (low) marsh that plays the decisive role for the settlement and utilization of the marsh. Due to varying conditions of sedimentation before the dykes were built, the marshes are subdivided into highlands with sandy, chalky soil (good for the cultivation of demanding crops), which is 1-2 km wide at the Weser, and the Sietland behind them which lies lower as a result of a smaller supply of sediment. The Sietland has soil rich in clay (and is therefore primarily used as pasture land) and, especially on the geest edge, is mostly boggy as a result of being saturated with water, and is therefore unfavorable for settlement. The latest layers of sediment were deposited in the northern section of the Wurster Marsch, near Dorumer, Spiekaer and lastly Cappler Neufeld.

The old marsh in the district of Land Wursten is a 1-2 km wide strip of virtually uninhabited pasture land immediately to the west of the Hohe Lieth, which is bordered by two prominent features of the landscape. To the east is the Grauwall Canal, completed in the 1950s, which goes back to the Grauwall (ditch wall), first mentioned in 1312, an inland dyke drained by ditches protecting the marsh from the intruding geest water. To the west lies the Bremerhaven-Cuxhaven railway line, which opened in 1896 and whose route passes the high marsh on the eastern edge on relatively solid ground. The westerly area of the old marsh, cultivated from the old village mounds, shows irregular block fields,

Fig. 4.59:  
The dwelling mounds and dykes in the north of the  
Wurster Marsch  
Source: LGN, NLFb



while the eastern section, which was cultivated later, has land strips of differing width along the Grauwall. The layout of fields from the earliest marshes settled in modern times is also characterized by wide strips. Only two thoroughfares cross the old marsh in an east-west direction. To the south the road K 66 from Wremen to Sievern, which is lined on both sides by a wind park directly west of the Grauwall Canal, and further north the road L 119 from Langen to Dorum. An additional wind park south of this road is an eyesore on this flat land. More wind parks are located around Wremen and in the Dorumer and Spiekaer Neufeld.

Village mounds, thrown up in the 1st century and abandoned during the migration of the peoples, spread in a line to the west of the old marsh, starting from Dingen in the south, through Mulsum and Dorum as far as Alsum in

the north. The three big dwelling mounds in the southern district of Land Wursten, the Barward, Fallward, and Feddersen Wierde, still lie vacant today. Excavation of the Feddersen Wierde has produced an impressive amount of evidence on the beginnings of settlement on the surf embankment since the Late Iron Age. Villages which had originally been laid out on the flats had to be raised on mounds to guarantee their continued existence, starting in the 1st century. Richly adorned old Saxon graves from the Fallward underscore the wealth of the settlements and the economic appeal of the marshes in Roman times. In the course of the 5th century increased tidal flooding led to the abandonment of the area.

In the 7th/8th centuries, the chain of mounds from Roman times formed the starting point for renewed settlement in the old marsh - this time



by groups of Frisian settlers. The silting-up of the shoreline mud flats, however, made it possible for the higher fertile land to be settled quite soon. The village mounds of both Wremen and Misselwarden (first written reference in the vita of the Holy Willehad in 860) are vestiges of this settlement. The results of recent excavations show that the area north of Mulsum was also occupied by an early mediaeval settlement. In the northern part of the district of Land Wursten the filling in of the coastal mud flat area was for the first time sufficiently advanced for settlement and cultivation of the new marsh areas in the 10th century. Starting with a concentration of settlements in the area of the old mound villages, groups of farmstead mounds were spread out to the west on the upper marsh islands, which can also be seen further north around Cappel and Spieka.

The historic parish of the district of Land Wursten can testify to an unbroken history of settlement during the Middle Ages, which finds its counterpart in ongoing settlement of the village mounds down to our day. By the beginning of the 13th century at the latest (a 1238 charter bearing the seal of Wurster Land) the inhabitants of this region had formed a political unit, so that de facto sovereignty of Wursten came to be acknowledged based on Frisian common law until its subjugation by terms of the Peace of Stade of 1525. Because of its increasing economic importance, Land Wursten was reserved a special position (Constitutional Convention of the Marshland Districts, 1668). Stone churches, built following the „second Christianization“ from the 12th to the 14th centuries, bear witness to the economic power of the small parishes. Because of their numbers in this area and the quality of the relics at each location they make outstanding historical monuments. The row begins at Imsum (only the Ochsenturm remains as a relic of the church possibly built in 1218) and continues to the 12th and 13th century churches in Wremen, Mulsum, Dorum and Cappel (a classical modern church replaced its mediaeval predecessor in 1815/26) up to Spieka (incorporated in 1319). The churches of Misselwarden and Padingbüttel, built in the 13th century, lie to the west. Midlum (church dating to the 12th/13th centuries) had special status as a half geest church parish.

The plain rectangular hall, with a ceiling of wooden beams and a rectangular or square choir added, was established as a standard pattern for the solid construction being carried out in the

12th century. The choir is joined to the nave by a low arch (Midlum, Wremen, Mulsum, Padingbüttel and Misselwarden). The chancel choirs of the Wursten churches, with the exception of Midlum (possibly begun before 1200) and Spieka, were usually vaulted only later. In 1510 Dorum overtook the other communities as the site of the largest church by adding the choir hall, taking the Ottendorfer choir as its model.

The length to width ratio in the Wurster churches is characterized by moderate elongation, typical of the churches in the regions settled by the Frisians. The same is true for the arrangement of the portals on the long sides, which are often offset in a westerly direction. Besides the portals, the high rounded arched windows represent the only subdivision of the nave that is 3 to 5 window spans long. Stones available on the geest (granite, gneiss) were used as building material. Large granite boulders were worked into almost rectangular stones used to frame the corners of buildings and the walls of windows and portals. Good examples of this type of masonry are the church in Midlum, probably built in the middle of the 13th century and the least modified of the Mulsum church, as well as the granite facing in the lower area of the nave and throughout the choir in the church at Padingbüttel (probably built in the 2nd half of the 13th century).

Sandstone imported from the Weser uplands was used throughout the Middle Ages. In the 12th century, tuff originating from the Eifel region came increasingly into use. The forerunners of the churches in Mulsum, Dorum and Imsum were made of tuff. At times, its use was limited to individual components such as in Midlum and Mulsum. The only church with a façade made entirely of tuff is the Wremer church, built in the first quarter of the 13th century. The first church recorded as having been built using only brick is the one in Misselwarden (at the end of the 13th century), finally followed by the last of the Wursten churches, the one in Spieka.

In contrast to the ones of the poorer geest parishes, the Wurster church, located mainly on a mound of its own in the middle of a cemetery, shows an abundance of furnishings which as a rule span a period of several centuries and document the history and culture of the land with quality workmanship (e.g. the grave markers from the 16th/17th centuries, showing the name of the farmers' family). There are baptismal fonts from before 1300 in Dorum, Cappel and Midlum, and a group of scenes of the crucifixion (Pading-

büttel, Dorum, Spieka) from the Late Middle Ages. Oldenburg and Bremen were the primary cultural centers of influence for most of the Wesermarsch. The cast iron works in the district of Land Wursten for instance can be traced back to foundries in Bremen. Here, the numerous works by the Klinghe family should be mentioned, as well as the Late Gothic sacrament house in Dorum. Decoration systems from the 13th to the early 16th century, showing how colorful the churches once were, can be found in Midlum, Mulsum and Dorum (the representation of the Last Judgement is especially memorable here). The pews at Misselwarden and Mulsum are examples of fine carving from the 16th century.

An economic boom in the 17th century led to the founding of numerous charities for furnishing the churches. It was at this time that important local artists first appeared. Their works (altars, pulpits, epitaphs) have left a considerable mark on the churches' use of space. Two Ottendorf woodcarvers, Michael Ringkmacher from the first quarter of the 17th century and Jürgen Heidtmann from the second half merit special mention. An instrument built by Arp Schnitger is probably the most significant organ in the region. It is located in the Cappel church, for which it was purchased in 1816.

The chronology of continued settlement on newly reclaimed marshland west of the village mounds can be read from the outlying farmstead mounds placed in the form of rows, which were created in conjunction with the construction of early dykes. The dyking was carried out along the three main lines of Oberstrich (upstream dyke), Niederstrich (downstream dyke) and Altendeich (old dyke) which run from south-south-west to north-north-east, with ribbon-shaped meadows arranged in perpendicular fashion, and with a drainage canal for each district, all of which together characterize the district of Land Wursten between Solthörn in the south and Deichsende (dyke's end) near Nordholz.

The first completed line of dykes in the district of Land Wursten, the upstream one, is probably a summer dyke, on the inner side of which most of the mounds lie deserted today. Since the creation of the oldest living levels in the 12th and 13th centuries during the Late Middle Ages, they were thrown up to a height of about 4 m above sea level. The foreshore that was later formed was protected by the downstream dyke, erected in the 14th and 15th centuries as a winter dyke. As a result, the row of mounds accompanying it reaches only a relatively small height. Today only

a few fragments of this dyke remain. It is also followed by the mediaeval Altendeich (preserved, built before 1518), which is up to two meters high and bordered by several so-called Wehle (pools formed behind dykes). Moreover, a street runs along its crest. Niederstrich and Altendeich are distinguished by tree-lined avenues that follow them over wide distances across the even landscape.

With the existing line of the sea dyke, recognized as a cultural monument, the development of the land in early modern times reached its conclusion. Cappeler-Neufeld represents the last reclaimed land. The building of the present main dyke was begun in 1618. After the storm surges of 1717 and 1825 the dyke was made higher and wider. Due to their significance in the settlement and economic history of the coastal region the dykes represent an outstanding document in cultural history. No hydraulic systems (ports, sluices, locks, pumping stations) worthy of protecting have been preserved in the district of Land Wursten.

Because construction measures followed the new dyke, Oberstrich shows the least (lacking even monuments) and Altendeich the most signs of settlement. These consist of farmsteads together with residential blocks mostly built after the Second World War. The Niederstrich, on which the individual mounds particularly shape the landscape, primarily bears the stamp of the farming complexes located east of the present district road 68, which reflect the agricultural emphasis of the region.

Only a small number of structures of historical value are preserved on the farmsteads. The farms lined up along the various strips of settlement consist of a main house, with the working gable towards the west or northwest, and several outbuildings. The cobbled farmyard in front of the living and working quarters mostly has two (cattle) barns with two posts in the cross-section on its perimeter and the direction of the roof ridges at right angles to that of the main house.

Unlike the Hadelner Marsch, in the Wurster Marsch brick construction, which has been in use for secular buildings even before 1612, was dominant both for main buildings and for outbuildings. The few half-timbered buildings tend to be constructions that were transplanted by farmers migrating from the geest into the marsh in the middle of the 18th century. Historical architecture consists primarily of brick buildings from the 19th century.

Completely preserved brick buildings have come down only from the 18th century, and they are of significant dimensions (e.g. the main building at the Cappel farmstead, Niederstrich no. 17: An ensemble of two barns with two posts in the cross-section, a baking house and a pig sty). The gable is dominated by a basket arch-shaped entrance door with side windows. The manure canal doors are also basket arch-shaped. The slanting sides of the gable triangle enclose embedded keeled triangular layers, so-called Dutch triangles, which were still to be found here during the first half of the 19th century. The upper half of the steep gable is made of boards which are usually painted green in the district of Land Wursten. The roof was generally thatched – and in some places (e.g. Midlum, Nordermarren no. 5, built in 1790) this is still the case even today. The windows, with straight lintels closing the gable, cover up supporting arches.

The form of the gables of the main building and the large outbuilding, devoid of any decoration, was maintained during the first half of the 19th century. The only features livening up the wall surfaces are wall supports of wrought iron (e.g. Wremen, Wremer Specken no. 7, dated 1815), or a small sandstone slab above the hall entrance with the building owner's name and the date of construction (e.g. Midlum, Südermarren no. 29, dated 1849). Since the fifties of the 19th century the verges have been accompanied by stepped brick friezes, the upper half of the gable is still boarded (e.g. Misselwarden, Engbüttleler Straße no. 4, dated 1857). Buildings from the 1860s, however, have steep gables with tiles, as well as friezes on the verges and additional windows staggered in the roof area, each closed with a round window at the top of the gable (e.g. Nordholz, Südermarren no. 30, dated 1862; Dorum, Strichweg no. 16, dated 1867).

In the latter part of the 19th century it was customary to erect the principal building in the form of a bay hall house with four posts. However, buildings from the end of the 19th century (e.g. Dorum, Altendeich no. 14) have retained a relatively modest gable design, doing without horizontal cornices and anchor block arrangements, whose appearance is enhanced only by windows on the wide surfaces of the steep gable wall.

The smaller structures in the Wurster Marsch are of no historical value. An exception to this, even in the rest of the district, is the brick warehouse on the plot Engbüttleler Straße no. 4 in

Misselwarden-Engbüttel, a two-storey brick building from 1764.

#### 4.4.1.4 Landwürden and Osterstade

The cultural landscape of Landwürden and Osterstade takes in the marshland on the right bank of the Weser river between Bremen and Bremerhaven. Viewed from the center of the region, the urban skylines of the suburbs of these two cities form its southern and northern boundaries. The wooded slopes rising up to the geest mark out the eastern margin, while the Weser dyke with its string of small villages and their stands of trees forms the boundary in the west.

As a result of different sedimentation conditions before the dykes were erected in the 12th century the marshland is divided into two parts. One section, the so-called highlands, lies close to the river bank, is raised by about one meter, is one kilometer in width and has sandy, chalky soil. The other section, the so-called Sietland, has soil rich in clay and lies somewhat lower as a result of having less sediment deposited on it. It is mostly rather boggy, especially on the edge of the geest. This manifests itself in the scenery through the fact that the embankment is settled more densely, whereas the broad, rectangular field allotments are used for farming and have a more substantial cover of vegetation, mainly consisting of trees and bushes. The prevailing natural conditions resulted in the development of self-contained villages on the embankment as the typical form of settlement since the 12th century. These villages relied upon Dedesdorf and Sandstedt as administrative centre and market town respectively. The Sietland, by contrast, was not settled until the 18th century, and even then only in the form of a few individual farms.

The landscape is virtually devoid of any buildings of historical significance. There are the church tower of Sandstedt and, somewhat less imposing, the church tower of Dedesdorf, two windmills in Dedesdorf and Aschwarden and five navigational lights on the Weser dyke. For this reason the modern structures have strong visual impact on the landscape. The principal ones are six wind energy installations near Stotel in the east, the Brake nuclear power plant with its wind energy installations and associated power transmission towers in the west, as well as the city's harbor facilities. A high-voltage power line cuts through the entire district running from north to south.

The first known settlement in the region is dated back to the Late Iron Age, consisting of settlements on the flats near Aschwarden and Wurthfleth. Settlement was suspended at the time of the migration of the peoples. Permanent settlement of the region got under way in the Early Middle Ages with the establishment of mound settlements (Rechtenfleth about 860, Sandstedt about 1050). The most impressive dwelling mound, no longer occupied today, is near Aschwarden. The dyke built in the first half of the 12th century is the most outstanding historical monument of this cultural landscape: it was this dyke that allowed permanent settlement to succeed. The slight changes in alignment of 1625 and 1717 remain largely preserved until today, even though the dyke is now considerably higher, and with gentler slopes than in the past. A section about 300 meters long near the village of Auf der Jührde still retains the old proportions.

Canals passing through the dyke, called sluices, were used to drain the Wesermarsch. Originally they consisted of wood, but were made out of stone from the 18th century on. The stone head from one such sluice, the Drepte sluice near Rechtenfleth (1726), remains in good condition, even though it was moved on to the dyke above the water passage which is now closed. The greatest changes to the region in terms of hydraulic works were brought about by the dyking of the so-called Luneplate, of the lower reaches of the river Lune (1921-25), and the realignment of the course of the river in the years 1985-1987. The dredging work to make the shipping canal of the Weser deeper was carried out in the years from 1887 to 1895. Five navigational lights, which once marked out the shipping canal at night (upper beacon in Sandstedt as well as two each of the upper and lower beacons on the Harrier sandbar to the southwest of Sandstedt) have been preserved and remain as built testimony to this operation. These beacons consist of a cylindrical upper level with a walkway around it and topped by a lamp. Of different heights, they are supported by a three-legged base of strut construction.

Only the stone buildings – that is, the churches – have been preserved from the Mediaeval period of settlement. The parish church of St. Laurentius (built around 1150) in Dedesdorf, the main town of the Oldenburg district of Landwörden and its administrative centre until 1879, is the oldest structure remaining in this cultural landscape. The brick hall structure of the nave,

likely to have been a vault construction originally, was built in the second half of the 13th century. There were, however, buildings that preceded it on the church mound (possibly from the middle of the 13th century). In 1838 the chancel (i.e. the choir) was renovated, and the old tower was replaced in 1870. The church also features the most significant item of ecclesiastical heritage in the region, an Arp Schnitger organ from 1697/98. The most important church building apart from Dedesdorf is the church of St. Johannes in Sandstedt, the main town of the district of Osterstade in the state of Bremen. There was an earlier building on that site, built after 1043, and subsequently another was built about 1420, and this one was later integrated in the rectangular hall erected here in 1609-1613 and still in existence today. The west tower originated in 1613 and characterizes the scenery of this place with its high helm roof. The oldest wall paintings in the region (15th century) have remained preserved in Sandstedt. This church also has a valuable organ (1671, B. Huß, the apprentice master of Arp Schnitger). There are smaller church buildings, such as the chapels of Büttel (hall church with polygonal end from before 1506, tower from 1971) and Bruch (late Gothic hall church including a chancel, remnants of the preceding building from about 1200, bell tower formed by three parallel walls, remains of murals). The chapel of Wersabe is also mediaeval in its origin, even though its present appearance has been shaped by more recent building phases (hall church, built in 1769, west tower consisting of three parallel walls, renovated in 1898). The cemeteries which cover the surface area of the church mounds also form part of the visual impression presented by the churches. All of the cemeteries feature old headstones from the 17th and 18th centuries, with a particularly large number in Dedesdorf. A cemetery from the middle of the 19th century is located in Rechtenfleth, although not on the historical site.

Until about 1900 the style of rural architecture was that of the area in which the Northern German bay hall house dominated. Evidence for the manner of construction in the 17th and 18th centuries can only be found in very few instances and even then only in remnants: Indiek no. 20 (near Büttel), an isolated farm, is a house featuring twin posts in the cross-section and an inner post-structure dating back to 1599 (oldest occurrence of a rafter threshold in the Cuxhaven district). The presence of more recent wooden components that date from the year 1653 raises

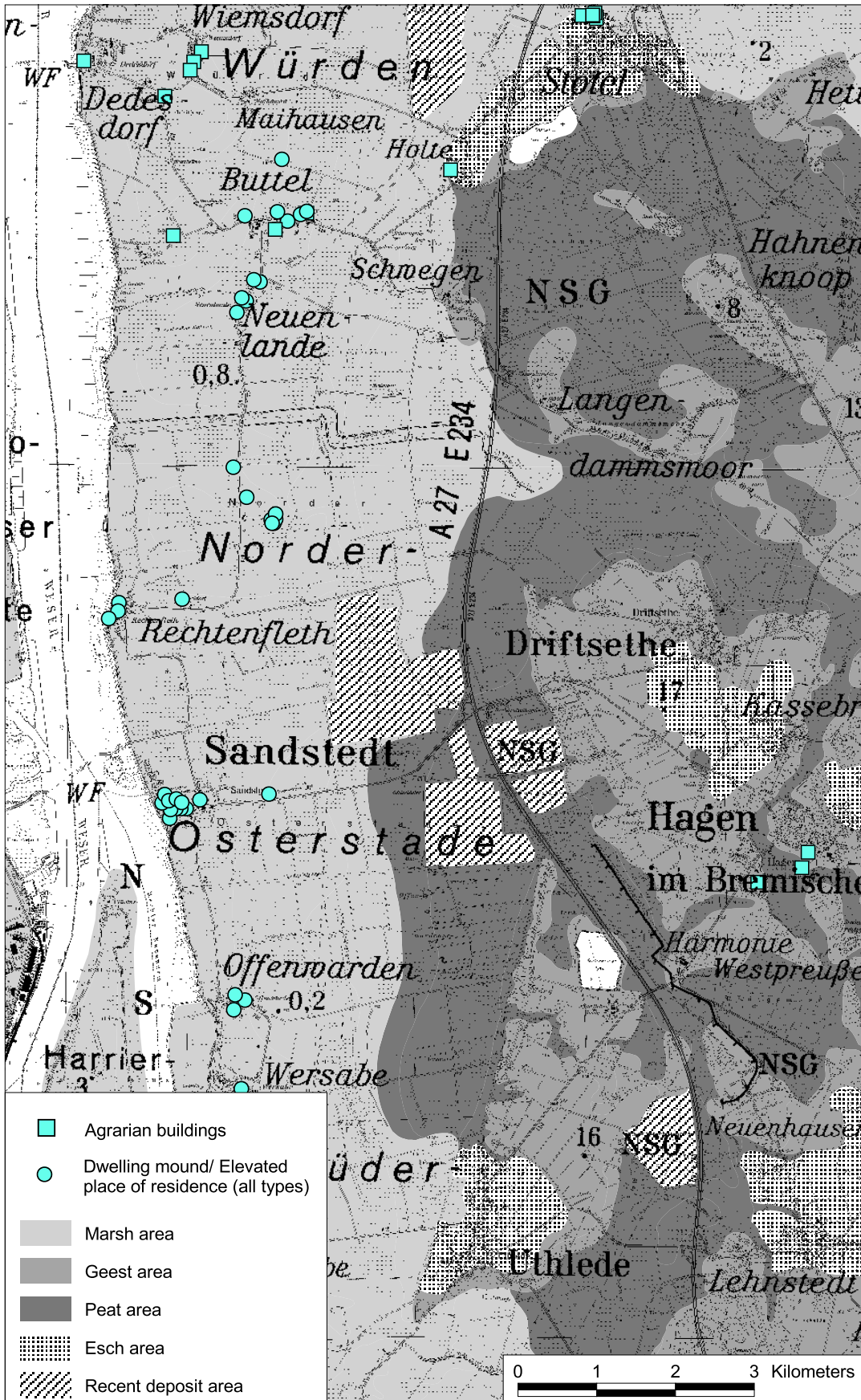


Fig. 4.60:  
The dwelling mounds and agrarian buildings in the north of Osterstade  
Source: LGN, NLFb

the possibility that this is reconstruction following destruction in the Thirty Years War. The second oldest inner post-structure (1621) can be found in the house at Dorfstraße no. 6 in Wersabe. Parts of a house from 1638 have been preserved in Wiemsdorf, among them the only remaining history farm gable in the region, featuring the ornamental motif of the fan-like rosette (even at that time it was unusual in urban areas, and rarely found in the region). The building at Osterstader Straße no. 29 in Sandstedt has interior trusses dating back to the second half of the 17th century. A brick storehouse in Büttel can not be dated at present, but its steep roof points to an origin in the Late Middle Ages or early in the modern era.

Built structures found in villages of the 18th century are represented by the work section of the bay hall house with twin posts in the cross-section, located at Deichstrenge no. 11 in Sandstedt (1761). Anything that would compare to the riches of the marsh farmers of Hadeln of the 18th century is completely absent. The farm complex of Wersaber Moor 3 still gives some indication of the first settlement of the Sietland, which took place as late as the 18th century and involved individual farms. The building complex consists of a residential and work building, a sheepfold and a combined storage and stable structure.

While the historical monuments mentioned above are all individual objects which can scarcely convey a picture of the appearance of the cultural landscape in earlier times, the documented historical monuments from the 19th century still form part of an extensive fabric of buildings which shapes both the communities and the land. The buildings were predominantly made of brick and constructed in the four-post style (that is, with ceilings located at the same height as the eaves), and, until the middle of the century, under thatched half-hipped roofs and featuring windows with round arches in the farm gable. Even the barns were of opulent design. Buildings from the early 19th century that deserve to be mentioned are, in Landwürden: Ueterlande, Oldenburger Straße no. 2 (farm complex) and in Osterstade: Büttel, Weserstraße no. 29, Offenwarden, Hauptstraße no. 1 (storehouse and barn) and Sandstedt, Osterstader Straße no. 29. The style of building dating from the middle of the century may be seen at its most characteristic in Overwarfe (Warftenstraße no. 25 and no. 50), and that of the close of the century in Wiemsdorf (Minneörterstraße no. 5). By about

1900 the time of the North German bay hall house had passed, and ideas of living in an urban fashion took hold. This meant the separation of residential and work or business areas, and a shift in the design of dwellings towards that of a town villa with a historical set of forms. Examples can be seen in Fleeste (An der Balge no. 1) and in Sandstedt (Osterstader Straße no. 31). The only surviving village building that does not correspond to the standard type of regional farm house is from the 19th century and can be seen on the church mound of Dedesdorf (Fährstraße no. 14a).

In closing, some individual objects worthy of notice should be mentioned. The first is the customs house in Dedesdorf, dating back to the time of the continental blockade (1811-1813). When the occupation ended, the structure was pulled down and re-erected on the inner side of the dyke. Then there are the village school in Büttel (about 1900) and a small tea house on the farm that was already designed in the urban style in Sandstedt (Deichstraße no. 31). Then there are the buildings and other constructions erected by, or at the instigation of, the poet Hermann Allmers in Rechtenfleth. These include a dwelling built in 1731, renovated in 1842 and in 1859, including interior decoration, a park, a war memorial from 1871 and a monument to Charlemagne from 1897-99. The two windmills in the region are of the type „outside cap winder“ from the middle of the 19th century.

#### 4.4.1.5 Neuwerk

The island of Neuwerk, located in the Wadden Sea off the shore of Cuxhaven and belonging to the Free and Hanseatic City of Hamburg, has preserved the original appearance of its landscape characterized by marshland and salt marshes on the outside of the dykes. Due to its location at the mouth of the Elbe, the island has always been of particular strategic importance. Proof of this can be seen in the former fortified tower which has been used as a lighthouse since 1814. The Neuwerk tower is the oldest surviving secular building in Hamburg and, owing to the history of its construction and ties to the history of the region, can be counted among the important cultural landmarks of both Hamburg and the north-western region. In 1393-94, as a result of feuding and purchase, Neuwerk together with the castle and Ritzebüttel estate fell under Hamburg's control and remained so without interruption until the passage of the Greater

Hamburg Law of 1937. Through this law, the island became a part of the district of Prussia and, after the Second World War, was integrated into the federal state of Lower Saxony. After the war, the first prime minister of the federal state of Lower Saxony, Heinrich-Wilhelm Kopf, drafted the state constitution while on Neuwerk island. A state agreement between Hamburg and Lower Saxony defining the conditions of return of the island to Hamburg was signed in 1962 on Neuwerk.

In 1299, Hamburg received permission from the landowners, the Dukes of Saxony-Lauenburg, to construct a fortified tower as a navigational aid on the „Nige O“ or „Nova O“, as the island was referred to at the time. After completion of the tower in 1309, the tower was supplied with a garrison to collect a toll known as „Werkzoll“ from passing ships. The tower had to be almost completely rebuilt as the result of a fire which occurred between 1376 and 1379. The tower today is a six-storey brick construction based on a quadratic ground plan, located on a high mound. The original entryway was on the first floor and can be reached by means of a wooden stairway. Remains of a previous fortification belt in the form of a moat are preserved northwest of the tower on „Thom Wisch“ meadow.

Between 1556 and 1568, Neuwerk was supplied with dykes and the arable land was leased to three Butjadingen farmers. The house pilings for their farmsteads (Osthof, Mittelhof and Westhof) as well as those for two fisherman's dwellings were completed by 1579. While the house pilings of Mittelhof and Westhof have recently been reconstructed, thereby preserving their original function, Osthof has been abandoned. In the area of the Osthof, the house pilings and the remains of the half-moon shaped inner dyke surrounding the farm are still visible on the surface. The remains of the inner dyke can probably be linked to a breach in a dyke occurring in the 18th century. A fisherman's dwelling resting on pilings is also located on the premises on the southwest side. In the 18th century, Neuwerk experienced a number of tidal floods which resulted in breaches in the dyke. The dyke surrounding the tower known as the „Turmdeich“, which also used to include the outworks, was installed after the tidal flood of 1718.

Another cultural landmark includes the „Cemetery of the Nameless“ which, according to tradition, had been used for the burial of foreign sailors since the 14th century. In addition, there are the „technological monuments“ represented

by the north and east markers which are navigational aids in the form of high wooden structures located in the mudflats and on the unprotected foreshore. The north marker was constructed in its current form in 1904 and restored in 1953. The first known marker on this location was constructed in 1825. The east marker, which was restored in 1956, was constructed in its current form in 1894. The position of this marker had already been recorded as far back as 1846. The bank reinforcement located in front of the west and south dykes and erected using pileworks and glacial boulders is also worthy of classification as a „technological monument“. The bank reinforcement was constructed in its current form between 1795 and 1826 and is continuously being improved in order to protect the coastline and dyke. It is regrettable that neither the markers nor the bank reinforcement have been added to the list of historical monuments. Despite the fact that the markers have lost their function as navigational aids, they remain characteristic landmarks of Neuwerk and are in serious need of repair. The preservation of these markers would not only be gratifying to the 30 inhabitants of the island but to the approximately 120,000 people who visit it every year as well.

Neuwerk island has preserved an extensive amount of evidence testifying to the development of the cultural landscape and history of the island. The isolated location of the island as an outpost of Hamburg at the mouth of the Elbe in the Wadden Sea has contributed greatly to its preservation. The fortified brick tower is a cultural landmark which possesses great importance for this region and beyond.

The beauty of its silhouette is marred solely by the presence of a modern radar tower on the north side of the island which is necessary for ship safety. It remains to be seen what effect the planned construction of a national park building will have on the appearance of the landscape.

#### 4.4.2 The land between Weser and Ems (Unterweser–Jade Districts, Districts of Ostfriesland)

##### 4.4.2.1 Introduction

The East Frisian peninsula appears at first glance to be the epitome of a cultural landscape. The naturally endowed area, shaped as it is by historical and cultural developments, represents an entity that is very distinct from its neighboring areas and which is therefore held to be unique by its inhabitants. Uninterrupted lines of dykes form the boundaries on three sides - in the west towards the Ems, in the east towards the Weser, in the north towards the sea - of this cultural landscape, of which the dune islands also form an integral part. The fourth side is marked out by a belt of what was once boggy moorland which forms an arc from Nordhümmling to the Jade rivulet and which separates East Frisia from Emsland, Münsterland and Ammerland.

Within these boundaries the triad of marsh, moor and geest, with a network of waterways running through them, determines the nature of the land. The idea of not only having shaped this living space, but of having wrested vast sections of it away from nature, the favorable economic situation over past centuries, the part played by the Third Estate as a power in the land, and, apart from other historical peculiarities, above all the memory of „Frisian freedom“ have all given the people a distinct sense of being special somehow. Because of this, the land protection and hydraulic engineering works, the typical settlement forms of the dwelling mounds, polders, fens and harbors and, lastly, the characteristic constructions of the windmills and village churches, especially those of the gulf houses and the homes of agricultural workers, are regarded as true symbols of East Frisia.

As an idea, this view has its own reality and it is effective in the identification with a living space; it does this with all the more justification since it holds within itself not just the uniformity and closedness that are apparent at first glance, but also the multiformity and openness of the cultural landscape that are revealed when we take a closer look.

Right up to the present, the contrast between the districts of Frisia and Wesermarsh, which were formerly part of the Duchy of Oldenburg, and the district (and former principality) of East Frisia has remained alive. This difference developed starting with the formation of territorial

states from early in the modern era, became stronger as a result of their affiliation with different and distant larger countries (Prussia, Russia, Denmark), and eventually stabilized as a result of their integration into two German states (Hannover/Prussia and Oldenburg respectively) until they merged in the federal state of Lower Saxony in 1946.

This division obscures an even older one which was partly based on the natural boundaries of rivers or sea bays and bights. This subdivision of the space into smaller parts goes back to the „Länder“ or „provinces“ of the Middle Ages. Originally these were autonomous local authorities in the form of farming cooperatives until they were superseded by a regime of headmen in the 14th century. Following more recent developments, many of these provinces are no more than historical memories today (e.g. Emsigerland and Federgau in the Krummhörn, or Östringen and Rüstingen in Wanger-/Jeverland). Most of them, however, live on in the present as historic designations of the geographical features (e.g. Rheiderland, Norderland, Harlingerland) or even in the names of large modern communities (e.g. Moormerland, Wangerland, Uplengen), even though their borders may no longer match the historical ones precisely.

This polycentric structure made up of small units is the basis not only for the East Frisian settlement space, but also for that of the whole of Frisia and, with due alteration of details, for the whole settled area on the southern coast of the North Sea. The centrifugal forces inherent in this kind of structure hampered or prevented the formation of a larger political entity of some consequence time and again, but the structure also resisted attempts at territorial division. On the foundations of relatively great prosperity, a relatively high level of education and a quasi-bourgeois ethos, at least among the numerically significant upper social stratum, this structure was a prerequisite for the region to exhibit a high level of openness towards people, ideas, economic and cultural goods.

The characterization of the coast as a region that is remote and closed off from progressive developments may be persuasive from a modern landlocked point of view. The truth of the matter is that there have always been close links between the coastal regions as a result of shipping, and the economic and cultural exchange generated by the maritime trade was particularly lively with the trading centers of Flanders and Holland, and even with England. In the opposite



direction, the traffic flowed far inland by way of the navigable rivers, and even the moorland belt has always been penetrated by major roads and lost its significance as a hindrance to traffic to the extent that it was diminished as a result of cultivation measures. Through the canals, the fen regions in particular had direct links to the coastal ports and, through them, with the more distant trading destinations.

Because of similar natural conditions, similar historical developments and a continuous exchange of culture, many elements of the cultural landscape of East Frisia also resemble those of the rest of the coast. However, both in East Frisia and elsewhere on the coast these landscape features exhibit a high degree of diversity, characteristic regional combinations and numerous local peculiarities.

Even major landscape formations differ in their characteristics on a smaller scale, with variations in the forms of settlement. The recently formed marsh differs from the older areas in height, soil quality and drainage. As a rule, the latter is low-lying, especially in the Sietland near the geest, and today lies in part below sea level. The soils of the polders and groden, in contrast, are higher, with the more recent ones again being higher than the older ones, which, like the old marsh, could not be thrown up any higher once the dykes were completed. The younger soils, however, are not only drier, but also more fertile, sandier, lighter and therefore very well suited to farming - in contrast to the permanent grassland soils of the old marsh. The type of meadow found in the old marsh is characterized by small, irregular blocks in a network of ditches which follow natural watercourses very closely. The polders have larger, regular blocks or strips, with a ditch system arranged in a geometrical pattern.

In the damp old marsh, settlement is concentrated on the dwelling mounds. Large villages (especially in the Krummhörn) in which farmyards and the houses of agricultural workers cluster about the church as the central point may be differentiated from scattered settlements consisting of smaller farm mounds and church mounds (especially in the Wangerland). On the old coastline (e.g. Nesse and Langwarden) or on the shores of what used to be sea bays (e.g. Groothusen and Grimersum), settlements catering to the maritime trade developed into single-street villages on elongated mounds. Their function, also bound up with inland shipping, was

taken over by the sluice harbors after the dykes were built.

Church villages, most of them quite small, were also built on mounds - along the embankments of the Ems and the Weser. In isolated instances, particularly in the district of Leer, tongues or small ridges of geest that pushed through the marsh provided room for settlements - geest tongues for linear settlements such as Bunderhee, and ridges for small villages such as Tergast. Only after the dyke construction of the High Middle Ages, but well into the 19th and in some instances into the 20th century, were settlements built on the flats of the old marsh and also in the thinly populated Sietland - usually as outlying settlements belonging to dwelling mounds, and in the form of individual farms. In the polders and groden of modern times planned, open linear settlements were dominant, usually along an axis of development roughly in the middle of the land surrounded by newly-built dykes.

The farm and church villages on the sandy soil of the geest are more widely spread, irregularly laid out and green throughout. After the dividing up of the common land, their farming areas often give the appearance of a landscape dominated by boundary hedges (e.g. south of Aurich and around Hesel). The strung-out settlements on the edge of the geest (e.g. in Brookmerland) are a characteristic feature. Larger church villages, small towns and the bigger towns - with the exceptions of Aurich in the interior of the region and Emden on a large mound - also tended to occupy positions on the edge of the geest, originally often with an at least temporary direct link to the sea (e.g. Marienhaf, Wittmund and Jever).

Today, only small remnants have been preserved from the boggy moor regions so inimical to settlement. Since the 17th century the cultivation measures with their fen canals, often extending for kilometers and accompanied by loosely arranged linear settlements, have intruded deeply into the earlier landscape (e.g. Große-fehn, Warsingsfehn and Rhaudefehn). The irregular scattered settlements of the moor colonies are without exception more recent, for instance around Aurich, behind Ihrhove or on the southern edge of the Frisian Wehde.

With regard to the built structures, which effectively elevate the landscape and settlement features into the third dimension and so endow the cultural landscape with its extraordinarily expressive sculpted quality, two groups may like-

wise be differentiated. One of them is part of a supra-regional canon of forms which applies along the entire coast. This group includes the works for land conservation and hydraulic engineering, the network of waterways formed by the rivers and canals, the windmills and the castles.

The second group comprises small differences resulting from natural and economic conditions that developed between individual old Frisian districts, individual polders or even individual villages on the one hand. Behind them, however, an even older contrast between West and East appears to be in evidence. The geest ridge jutting out in a wedge shape westwards from the Harlebucht and as far as the old coast clearly separated the regional cultural expressions which had developed in the Middle Ages and which corresponded broadly to the spheres of influence of the bishoprics of Utrecht/Münster and Bremen. The territorial boundary forming later between East Frisia and Oldenburg has no significance as a cause of this cultural difference, because the latter is older than the former and became blurred in the course of the modern era.

In mediaeval church-building of the 12th and 13th centuries, the form of the hall-church with a free-standing, squat bell tower was predominant. Only a few places of significance were an exception to this with a cruciform ground plan (e.g. Stapelmoor, Bunde, Pilsun, Varel, Rodenkirchen), basilical elevation (formerly in Marienhäfe), crossing tower (Pilsun) or mostly with later extensions added (west or east tower). The cultural line of separation here - with Remels in the south and Buttforfe in the north - is marked out by the western boundary consisting of the churches built with square granite blocks. The soaring naves of these churches, erected on the highest points of the villages and dwelling mounds, are visible across vast distances and give an impression of almost archaic monumentality.

In contrast to these, the brick churches to the west of this line, or at least the more imposing ones, possess a richer language of forms, both in their overall architectonic form and in their decorative design. In the early 13th century, that is, before or in parallel to these brick churches, some churches were built out of tuff stone, this material being quarried in the Eifel region and shipped through Utrecht and Deventer in a pre-fabricated size, which was presumably the model for the „cloister format“ of bricks. Along this

trade route, this type of construction arrived in Gotland and, in East Frisia, in places which could be reached by ship at that time (e.g. Rysum, Groothusen, Norden, Arle). For this reason, they occasionally leapfrogged the granite block boundary (e.g. Stedesdorf and, right in the east, Langwarden). On the Weser, however, the Porta sandstone that was shipped along this river was the material of choice at that time (Blexen, Rodenkirchen, Berne), which points to an additional cultural connection.

Less spectacular, but just as instructive from a cultural-historical point of view are differences evident in the gulf house. The gulf house occasionally found its way into East Frisia as early as the later part of the 16th century as a cultural import from Flanders and Holland. Starting with the second half of the 17th century, it became the sole form for all new buildings, and this led to what appears at first glance to be a rather monotonous impression of rural buildings in general. Initially characteristic distinctions can only be made based on the integration of buildings into the different forms of settlement, and on variations in size resulting from social differences, which are also expressed indirectly in a spatial sense between marsh, geest and moor.

The relative monotony is essentially based on the similarity in principle of the gulf barns. Whatever differences may exist are either not visible at all or are of low visual impact from the outside. High frame constructions were used on both sides of the Ems until far into the 18th century, on the geest until far into the 19th and in Jeverland probably only until the early part of the 17th century, while upper frame construction was the rule in all other regions and otherwise in the more recent constructions. In the west the roofs are more broadly based, with gentler slopes and mostly fully hipped, whereas in the east they are somewhat steeper and mostly only half hipped. Finally, drive-through passages appear more often in the farming areas of the west and north.

This is a further indication of the west-east contrast, and it is particularly evident in the older living quarters. In the old marsh of Jeverland there is still a row of gulf houses with low, relatively narrow living quarters, yet still divided into two to three living areas, which have an inner scaffolding with two supports. Their tradition lived on in the distinct elongated front houses, with the chimney protruding from the middle of the roof ridge, even when they were joined to the barns under the one roof.

By contrast, in the west, in the Krummhörn for example, a shorter living section, two rooms deep and with just one living area, was derived from the stone house of the upper social strata and developed and established under the urban influence. Its chimneys are located in the front and/or the fireplace gable. An increase in the number of living rooms took place at the expense of the front part of the stable extension since the 18th century, which led to the typical, multiply recessed eaves walls. Only in the 19th century did large, stretched dwellings appear here, too. This contrast between West and East was eclipsed by a third form with a broadly laid out living section, with a single living area which was, however, three or four rooms deep, whose golden age was clearly in the first half of the 18th century and which more frequently dominated the image of the polders for which dykes were then being built. Finally, around 1900, the structural connection between the two parts of the house dissolved and we find - probably more often in the east than in the west - villas in an urban style with gulf barns added as extensions by way of connecting wings.

Quite comparable to church construction in the Middle Ages in principal, rural buildings exhibited not only cultural links between the forms of building in disparate regions, but far-reaching trade links were also in evidence in the practice of importing building materials, of which only bricks and roof tiles could be manufactured on location in the once numerous brickworks, and reeds for thatching could be reaped locally. Accordingly, from as early as before 1600, construction timber came from Scandinavia and probably from the Baltic, too; sandstones for architectural elements and especially for floor tiles (Bremer Floren) came from the upper Weser and, in the 19th century, roof slates for dwellings from England.

To sum it up, it can be said that the East Frisian peninsula, like all landscapes, has a structure which is distinguished by great complexity on different levels - the natural, the historico-political, the cultural - and by reciprocal interconnections between these levels; that is linked to neighboring landscapes and even to more distant regions through a diverse set of connections of varying closeness; a structure which has always been and still is in a state of dynamic change. Any attempt to separate out individual cultural landscapes from within such a complex overall structure would therefore hardly reflect reality, would mean that differentiations had to

be weighed against each other and categorized, relationships severed - in short, it would amount to an interpretative and judgmental construct.

The descriptions that follow do not attempt to organize the whole region comprehensively according to uniform criteria of similar in content, but to highlight characteristic parts of an area by way of example. Such featured characteristics can therefore stand for different things: the clear outline of the space, the shaping by individual, dominant elements, the complex connection between different elements. In each case the historical elements have to be as intact as possible and clearly recognizable in the present context. These sub-regions tend to be of different, yet generally „middling“ size, as dictated by the various subjects. Just as there are overlapping characteristic structures above them, e.g. in the cases of dyke-building or the network of waterways, there are also clearly defined smaller areas below them, of which only the „Meere“ (meres) and the „Hammriche“ (low lying marsh areas) should be named here.

As a rule, in naming the cultural landscape spaces, the names of old „provinces“ are used, e.g. for Rheiderland or the Wanger-/Jeverland. This is essentially done for two reasons. Firstly, in themselves, or by virtue of their connection with natural areas, these names often exerted an influence on the development of the cultural space, although it must not be presumed that the various boundaries will be found to be in exact agreement. However, where the development of a cultural space crossed over the boundaries of the „provinces“ by a substantial margin, this rule was abandoned, reverting instead to other historic designations of the landscape wherever possible, e.g. for the Krummhörn or the Harlebucht. Secondly - and this applies in both cases - it seems impractical to look for „scientific“ yet artificial names when long-established ones are available. Moreover, the latter, by acting as „mental spaces“, make it easier for the inhabitants to identify with them, whereas cultural landscape space are likely to be accepted by them merely as modern spaces for living - albeit spaces possessing a historical foundation.

#### 4.4.2.2 Butjadingen and Stadland

The northern part of the Wesermarsch district is divided into the two areas of Butjadingen and Stadland, which at the same time are the names of two large municipalities. As the two regions, whose boundaries were not always drawn clearly, shared the same population since the Early Middle Ages and thus to a great extent also shared a common history and development which, through the pressure of external events, only occasionally led them down separate paths, Butjadingen and Stadland should be looked at together.

The two parts of the area comprise the marsh regions between the Jade river in the west and the Weser river in the east, with the southern border of Butjadingen running more or less along the line from Eckwarderhörne to Nordenham. The Stadland in the immediate south of Butjadingen reaches from here as far as the present-day town of Brake.

The soil of Butjadingen consists predominantly of brackish and sea water marshland. Brackish marshland also covers the eastern part of Stadland, while boggy marshland, low lying and high moor marshland can be found in the west of Stadland. While the Weser embankment, several kilometers wide and favorable for settlement, was originally covered by wooded pastures, the low-lying wet land remained largely treeless. In Butjadingen periods of flooding (Dunkirk I Transgression) in the last centuries B.C. formed a sea wall, running in an arc from Eckwarden through Seeverns and Süllwarden to Sillens. A second sea wall formed in the north during the first centuries A.D. This wall runs through Tossens, Ruhwarden and Langwarden, roughly parallel to the present coast. The two sea wall zones played an important role in the settlement of Butjadingen, since short strings of dwelling mounds were built here. Some of these later developed into larger villages, and these became significant in the political and ecclesiastical organization of the district.

While we do have a marshland settlement on the Weser embankment near Rodenkirchen-Hahnenknooper Mühle which dates back to the later Bronze Age and is therefore the oldest known marshland settlement in the coastal region of Germany, according to our present knowledge colonization proper of Butjadingen began around the time of the birth of Christ, during a period when the sea was in regression. As described many times by writers in antiquity,

this process of settlement by the Germanic Chaucian tribe covered the coastal zone from the Ems to the lower Elbe and was characterized by numerous settlements on the flats.

However, the great increase in sea level since the first century A.D., combined with frequent inundations, forced the inhabitants of the coast to gradually give up their settlements at ground level and to erect artificial hills or mounds for their dwellings, which had to be continually raised and enlarged over the succeeding centuries to ensure the safety of people, cattle and property.

The 4th and 5th centuries A.D. saw the breakdown of most of the settlements, not just in the coastal region but also reaching far into the interior, and regions that had been settled for hundreds of years were abandoned. The few known settlement sites that remained occupied did not change the overall picture. This development, which occurred throughout the entire northern zone from the Netherlands to Jutland, was also in evidence in Butjadingen and in Stadland. Not all of the reasons that led to the emigration of a large proportion of the coastal population have been clearly established as yet. Apart from changes in the climate which caused living conditions to deteriorate, a strong migratory movement, especially to England, which had been abandoned by the Romans early in the 5th century A.D., is likely to have played a decisive role. Renewed settlement of the marshland and of the adjacent geest regions did not take place until the 7th century, nearly two hundred years later. In the course of this resettlement the higher areas were preferred and the dwelling mounds built on once again, but as has been shown by excavations in places such as Niens (Butjadingen), in the 7th century settlements were also established on the flats. This can be taken as an indication that the threat from the sea and from inundation was relatively minor at that time.

In the Middle Ages, Butjadingen and Stadland formed part of the Frisian „Gau" or district of Rüstringen (referred to as Riusteri in 787), which extended as far as the river Made in the west (near the present-day Wilhelmshaven), into the Ammerland in the south and, at the turn of the first millennium, perhaps even as far as the river Hunte, until the 12th century when the Counts of Oldenburg pushed the Frisian influence back to the north, as far as the little river Wapel.

The catastrophic floods of the Middle Ages led to the formation of the „Jadebusen", or Jade Bay, and to deep intrusions by the sea which even

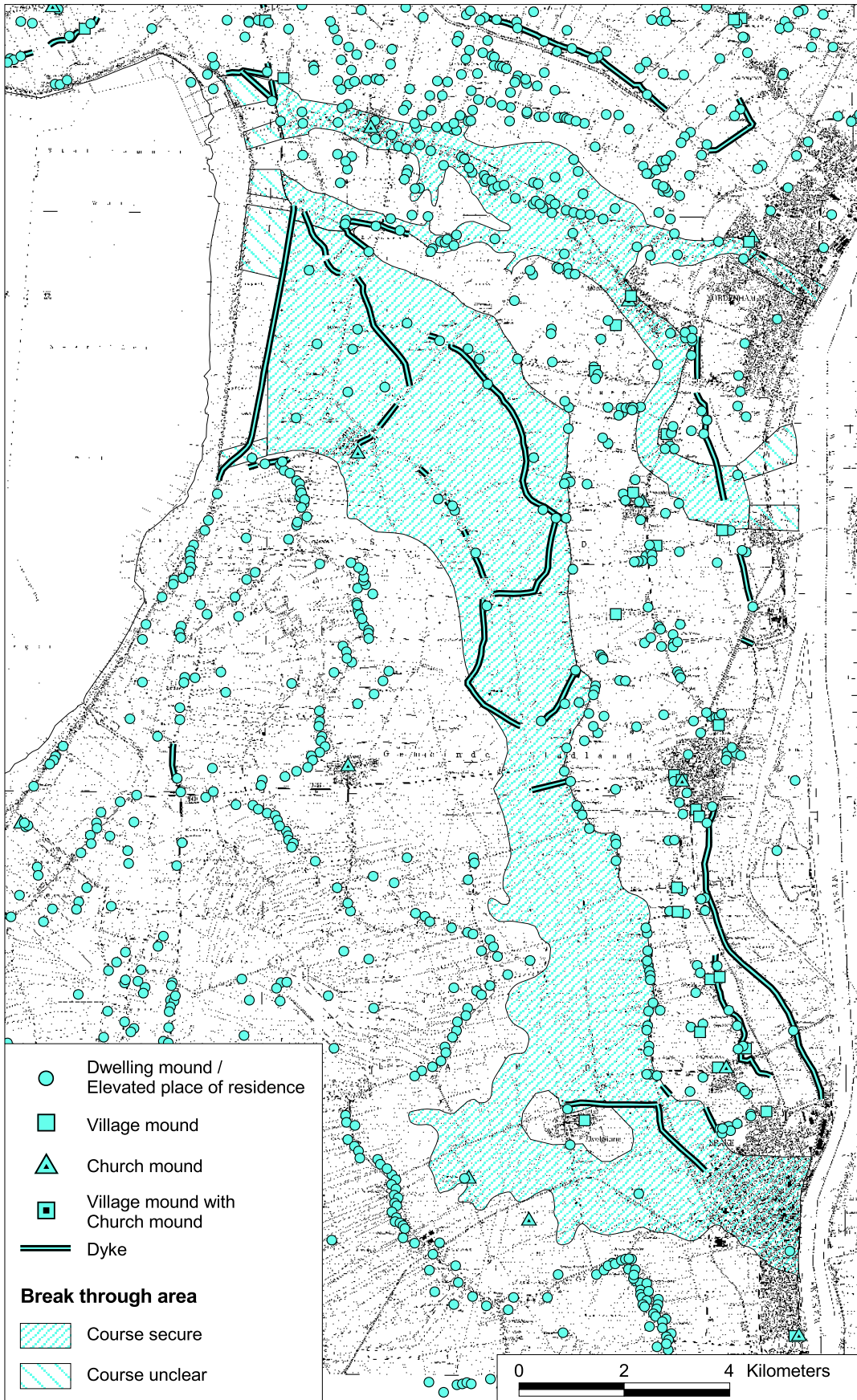


Fig. 4.61: All types of dwelling mounds and dykes in the Stadland region between Brake and Nordenham. The blue area typify the break through from the Heete and the Ahne-Lockfleth  
Source: LGN, Ey 1991

created links between the Jade Bay, and the Weser (Heete, Ahne-Lockfleth). In this way both Butjadingen and Stadland became islands for a time. The loss of land and the dismemberment of the region also led to the disintegration of the region as a political. As early as 1350 the municipality of Boit-Jatha (Butjadingen) issued documents as an independent authority and therefore already functioned as a separate political entity comprising the parishes of Blexen, Burhave, Waddens, Langwarden, Tossens and Eckwarden. The parishes of Rodenkirchen and Golzwarden formed the Stadland, which in 1367 was described as „terra Stedingorum in Rustringia“, that is, „land of the Stedingers in Rüstringen“. Around this time, i.e. in the middle of the 14th century, rule by headmen was imposed on the region, and this signaled the decline of democratically constituted rural freedom. The 14th and 15th centuries were marked by conflicts between the people of Butjadingen and Stadland on one side, and, in changing coalitions, those of Bremen, Oldenburg and even East Frisia on the other. The outcome was that the headmen finally lost their power and the old Frisian institutions were revived. It was only in 1514 that the Count of Oldenburg, in alliance with the Duke of Brunswick-Lüneburg, succeeded in subjugating Butjadingen and Stadland in the battles of Hartwarden and Langwarden. This conquest ended the independence of this Frisian region, which was now dominated and controlled from an Oldenburg fortress in Ovelgönne. The land, devastated by floods and wars, was slow in recovering. In the early 16th century extensive dyke-building was begun by the Counts of Oldenburg in order to reclaim the land lost through the floods of the Middle Ages. The Thirty-Year War was a time of calm and economic blossoming for Butjadingen and the Stadland, thanks to the political skill of the Count Anton Günther. This also manifests itself in the rich, high-quality decorative elements in many churches.

The Christmas flood of 1717 represented a great setback, with disastrous losses of human life, property and land, due in part to the fact that under Danish rule (since 1687) the maintenance of the dykes had been neglected. The influx of new settlers from the geest regions of Oldenburg caused Butjadingen and Stadland to gradually lose their Old Frisian character, and people began to feel part of the state of Oldenburg.

Butjadingen-Stadland is unusually rich in archaeological monuments, and by far the great-

est number of these are farm, village and church mounds, the raised dwelling places in the areas on the edge of the moorland, as well as historic dykes. The so-called Jedutenhügel represent a peculiar feature in the marshlands; a kind of monument that is well worth seeing and whose function has not yet been clarified. The hills are more than 5 m high and have diameters of about 30 m (Volkers and Grebswarden in Butjadingen, Schmalenfleth in the Stadland). Possible explanations are that they may have served as landmarks for seafarers, or that they were tribunal places. The number of archaeological monuments in the whole area of the Weser marshes comes to almost 1500, with the greatest concentration being in the northern part. The Butjadingen and Stadland region is considered one of the best researched coastal landscapes as a result of intensive archaeological investigations over decades, carried out in particular by the Institute for Historical Coastal Research in Wilhelmshaven, but also by the work of the State Heritage Authority. Among these investigations, the great excavations on the village mounds of Langwarden, Niens and Sillens (all in Butjadingen) are of particular significance. However, the many smaller investigations have also made an essential contribution in the writing of the history of settlement of these landscapes from the late Iron Age up until the Late Middle Ages and early modern times. These investigations produced answers to many questions about house construction, trade, handicrafts, infrastructure and the formation of settlements, diet, cultivation, animal husbandry and other topics. Special attention was and is being paid to the issue of dyke construction, whose beginnings in the 11th century can still be seen in the form of ring dykes, such as those associated with the southern string of dwelling mounds at Sillens, and which resulted in the large, continuous line of dykes that has been formed since the 12th and 13th centuries.

The ecclesiastical history of Butjadingen and Stadland is of great significance, as is attested by the large number of mediaeval church buildings. Many churches are stylistically very interesting and reveal influences from Westphalia and the Rhineland, while the building materials used - Porta sandstone from the Weser highlands, Tuff stone from the Eifel - bear witness to the extensive trading links. The mediaeval churches of Butjadingen and Stadland with their turbulent histories are all worth seeing, particularly Golzwarden and Rodenkirchen, which also

served as fortified church sanctuaries and which feature significant decorative elements. The same applies to the churches in Langwarden, Tossens, Eckwarden, Abbehausen and Blexen. Blexen dates back to the 8th century and is the oldest church site and mission church, possibly on the site of a pagan place of worship. The Frisian missionary Willehad died here in 789. Excavations in several of the Butjadingen churches, especially in Blexen, produced important discoveries in the history of construction.

Grassland farming has always been typical of Butjadingen and the Stadland. The luxuriant meadows of the marshland are particularly suited to cattle grazing and the dairy industry, which are very productive in this area. The landscape is dominated by wide marsh expanses in which the scattered farms and villages on their dwelling mounds are visible from great distances. These mounds give the coastal landscape its own unchangeable character even today; along with the dykes, they bear witness to the perpetual struggle of the people against the water and for the security of their existence. In no other landscape is the battle with the forces of nature as conspicuous as here on the coast.

Many areas of Butjadingen and Stadland have kept their original character in spite of the modernization required by the still numerous agricultural enterprises. These mound landscapes have great heritage value. While tourism has been an important economic force on the coast for some time, particularly in Tossens and Burhave, important industrial enterprises, shipyards, harbor industry and also the generation of energy tended to concentrate on the Weser between Nordenham and Brake. Some of these industry sectors have traditions going back to the 19th century. Wind energy installations have not yet had an excessive visual impact in Butjadingen, as they are concentrated in just a few areas. In contrast, the construction of the Weser tunnel at Kleinensiel, north of Rodenkirchen, in conjunction with the extensive construction of new roads and the upgrading of existing ones, as well as the proposed coastal freeway will all lead to massive changes in the landscape, especially in the Stadland.

#### 4.4.2.3 Stedingen

The geographic term Stedingen (derived from German „Gestade“ for shore, coast, bank) was an expression used in the Middle Ages for the southern area of what is today known as the district of Wesermarsch, i.e. the moor and river marsh areas west of the Weser river between Hammelwarden to the north and Schönemoor to the south as well as along both sides of the lower Hunte as far as Holle, a few kilometers east of Oldenburg. The area between the Hunte river and the former Lockfleth, also including the Moorriem area, was called North or Lower Stedingen and the area south of the Hunte South or Lower Stedingen, also including the „Lechterseite“, a separate area between the Weser and the Ollen rivulet, which has the characteristics of an island as it is virtually waterbound (insula Lechter).

The soil in the eastern part of Stedingen consists for the most part of fertile river marsh originating from sedimentation from the Weser, which becomes a strip of moor and marsh towards the west. Adjacent to this is a narrow lower moor zone followed by high moorland plains which continue up to the edge of the geest. Today, the highest points in the Stedinger district are between +1.00 m and -1.00 m above or below sea level.

Like all rivers, the Weser and Hunte also have built up embankments which, although only discernible within the grasslands to the practiced eye, are higher than the surrounding countryside and were favored as places of settlement in pre-historic epochs.

A map of the countryside reveals that Stedingen is a close-knit network of largely artificial waterways, which says more about this landscape than any narrative can. There is scarcely another area in the northern coastal region of Germany which has been transformed to such an extent by human habitation and is the product of such intensive efforts to colonize the land.

Evidence of early settlement of the southern Wesermarsch region are to be found at several sites. Thus, to the north of the Hunte at Gellener Dyke, on the boundary to Moorriem, artifacts dating from the Neolithic Funnel Beaker culture of the second half of the 4th century B.C. and also other artifacts from the Late Neolithic Age indicate that settlements existing there spanned several historical periods. Some artifacts, for example a flat-headed needle from Berne, date back to the following Early Bronze Age. Howev-

er, these are more likely to be signs of sporadic attempts to establish settlements. Continuous settlement can be assumed to have begun in the Later Bronze Age, which is documented by finds at several locations in the south of the Wesermarsch region such as Huntebrück-Wührden and at the St. Aegidius-Kirche in Berne.

A substantial increase is to be seen in discoveries from the pre-Roman Iron Age and particularly from the time of the Roman Empire, when intensive colonization of new territory apparently took place. It was during this period that more attractive environmental conditions allowed settlements to be built on the flats along the Weser and along the lower course of the Hunte as well. No artifacts are known to have been found in Stedingen dating from the 4th or 5th century. The situation here is no different from most other regions in Germany's north-west. There is also little known about the ensuing centuries, during which there are signs of increasing settlement and the establishment of villages in neighboring areas, many of these enduring to the present day. Not until the High Middle Ages can an organized settlement of the marshlands and cultivation of the Stedingen moors be discerned. Stedingen was an endowment made by Emperor Henry IV to the Duchy of Saxony and/or the archiepiscopal see of Bremen. From the 12th century onwards, the Archbishop in Bremen recruited colonists from Holland, who were able to receive parcels of land on favorable terms according to the land grant concession for Dutch immigrants (*ius hollanicum*). These events, for which there is documented evidence from 1106 (for Bremen's Hollerland), 1142 and 1149, transformed the area in the ensuing period and have left their traces. The decisive factor in cultivating the land was draining of the moors and marshes and the erection of dykes. Many settlers came from the Netherlands - a fact which many town names bear witness to - but not all. Among their numbers were also local Stedinger Saxons. They built their farms one next to the other in rows, and tilled the land assigned to them in long narrow strips. These long rows of dwellings shifted many times, evidence of which has been discovered through recent archaeological investigations. The colonization took place over a number of phases in areas specifically defined for this purpose, and is chronicled in its various stages.

Stedingen is first mentioned in the greater region's history, it might even be said in European history, in the 13th century. The freedom-loving farmers who had become affluent denied

the Bremen church its share of the tithe and tribute, thus endangering the church and its sovereign power. Near the mouth of the Hunte, the dukes of Oldenburg built the fortresses of Lienen and Lechtenburg which were destroyed by the inhabitants of Stedingen as early as 1204. In 1229 the farmers of Stedingen defeated troops dispatched to punish them by the archbishop of Bremen, after which the inhabitants of Stedingen were pronounced heretics by the Bremen archdiocese. In 1234, with the approval of Pope Gregory IX, a crusade was declared against the insubordinate farmers - a rare example of a crusade waged against Christians. The farmers' army was overwhelmingly defeated and almost completely wiped out at the Battle of Altenesch by a large invading army of high nobility from Holland, Flanders, Brabant, Westphalia, Rhineland and Oldenburg. The victors divided the land and farms among themselves, although the Oldenburg dukes were able to turn the event to the most benefit for themselves and gained power over the area, except for the „Lechterseite“ which fell to the Bremen archdiocese until it also was annexed by Oldenburg in 1547.

St. Aegidius-Kirche in Berne, also referred to as the „Stedingen Cathedral“, is undoubtedly Stedingen's most important church and was erected in the late 12th century on a mound dating back to the pre-Roman Iron Age that had been inhabited up into the early Roman Empire. After the Stedingen wars the old church with a single nave was enlarged into a three-aisled hall-church in pure Westphalian style. The dukes of Oldenburg built a hilltop fortress that is first mentioned in 1242, traces of which are still evident today. Further examples of mediaeval churches in the Stedingen area, some of which also house interiors of historical and artistic significance, are: Bardewisch, a three-aisled hall-church with late Gothic frescos first entered in a chronicle in 1245; Altenesch, a hall-church built in 1400 whose choir was originally part of the church built at the cemetery square in 1299 - the small Late Gothic brick St. Marien in Warfleth, which was built on the foundations of previous structures dating from the 11th and 13th centuries respectively; St. Marien-Kirche in Neuenhuntrorf, built in 1489, as well as the 15th century St. Nikolai-Kirche in Elsfleth. Archaeologists have carried out excavations in many of the Stedingen churches over the past decades and these have shed light on questions concerning the history of the buildings' evolution.



The mound villages on the Weser and the Ollen, which are protected as archaeological monuments, reveal the earliest settlement patterns dating back to the Early Middle Ages, although in some cases settlements from the time of the Roman Empire may have provided the foundation.

In addition to these old mound settlements, which in many cases evolved into villages during the Middle Ages, the Stedingen of former times is primarily characterized by individual farms (one „hide“ of about 80 - 100 acres could sustain a farm family) and moorland settlements, which in some cases stretch for miles in a long line without a true village centre. An outstanding example of this is Moorriem, but also Neuenhutorf, Oldenbrok-Mittelort, Harrierworp and Sandfeld. Most of the farm sites in these long settlement rows are protected as archaeological

monuments, as is the case with the historical lines of dykes.

The excellently preserved farming settlements of the large community of Moorriem previously mentioned bear witness to the history of the community's settlement and culture. On the boundary separating marsh and moor on the left side of the Hunte, shortly before it flows into the Weser, a moorland settlement of single-family farmsteads stretches out for over 15 km, still very much unchanged by the passage of centuries. The impressive consistency is the result of an historical development to which the soil and water conditions as well as the approach to colonization offered no alternative.

As a result of the geographic conditions, the settlement and cultivation of the Moorriem area gave rise to a pattern of arranging farmland that bears the unique and distinctive stamp of the u-

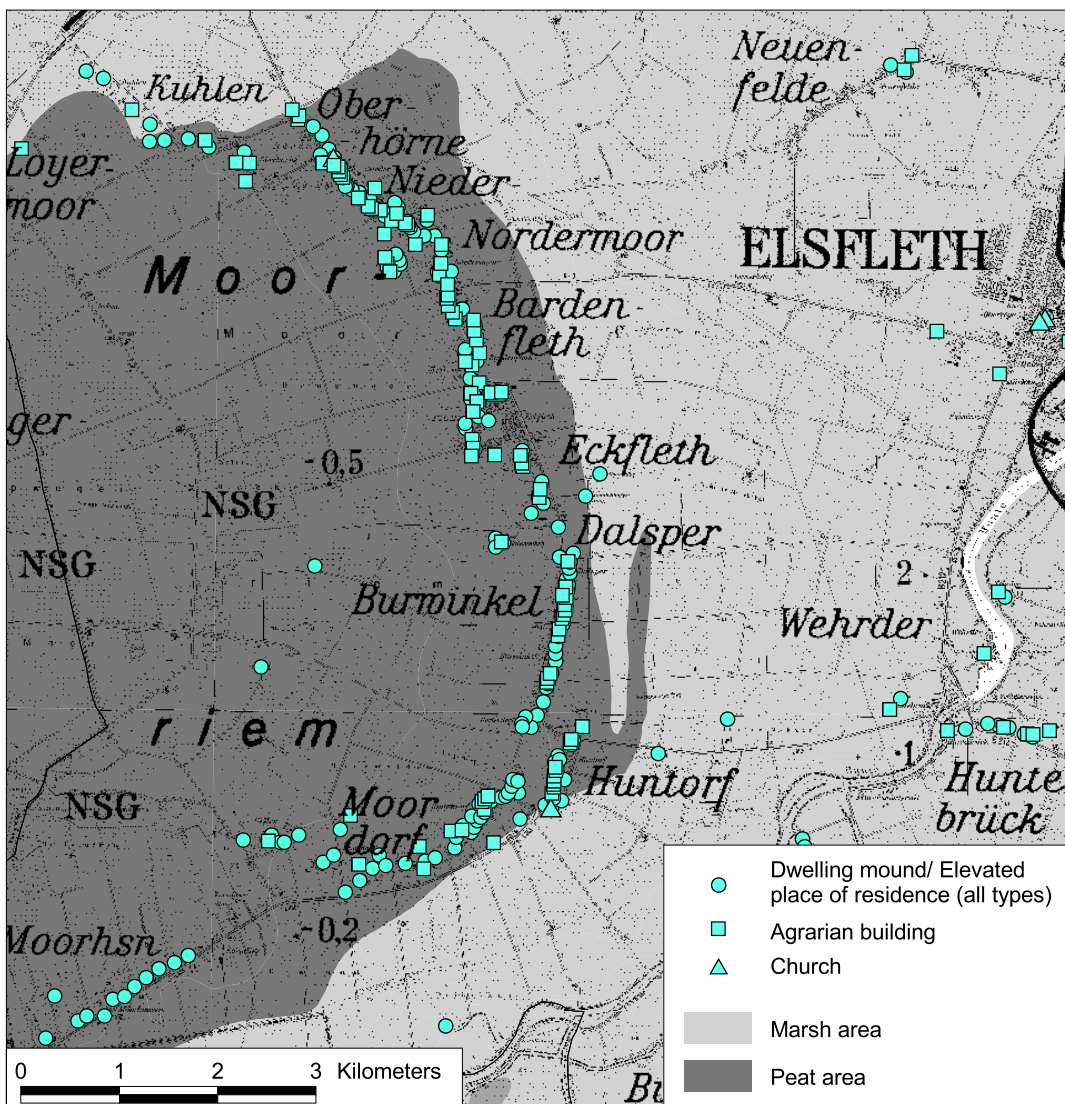


Fig. 4.62:  
The elongated settlement  
of Moorriem were laid out  
at the edge of the moor  
Source: LGN, NLF

shaped moorland and marsh farmsteads in general. The location and breadth of the farmsteads strung along the road in a parallel row is determined by plots of land - known as „Baue“ in Moorriem - which were originally laid out upon the completion of dyke-building with borders defined by drainage ditches. This type of farmland design enabled each farmstead to have a more or less equal share of each of the various soil qualities. Areas of new cropland were constantly added to the farmstead property in the direction of the moor. Near the farmsteads, cropland that had been tilled but was no longer arable became pastureland. In this way, the sections of land were marked off in a 20 - 50 m wide strip of up to 8 km in length, making the working of the land an arduous affair due to the distances needing to be covered. Relocating the mound was not possible, because that would have moved it away from the marsh, and the farmsteads themselves would have been set apart on the moorland. Drainage of the land was provided by a system of ditches typical for this type of settlement: These ran in a crisscross pattern and accounted for approximately 15% of the land surface. Narrow ditches flow into ditches running at right angles, which in turn flow into ditches running the length of the field. The long ditches, which frequently serve as a boundary for the farmsteads, empty into drainage ditches, and these flow into sluice canals which as far as possible convey the water to the closest river.

The layout of the farmsteads and type of farmhouse built on them go hand in hand with the Moorriem area's distinctive settlement type and the unique pattern in which land is apportioned. The building style has remained a distinctive feature of large parts of the district up to present times. The various sections of the farmstead - consisting of the main structure containing living and working quarters as well as the stables, smaller buildings, the farmyard and the garden plot - are arranged in a pattern typical for the landscape. They are usually built on earth-covered pilings, mostly on the moorland side of the road running down the middle of the settlement and bisecting it into equal parts. The working quarters face the road. The approach to the farmstead opens out to the road. The location of each farmstead building is determined by its function. The barn, mostly based on a double-jointed frame construction with saddle beams and doors for access on the sides, straddle the farmyard. It is conveniently close to the main

building, so that little time is lost walking between the two. The garden plots are next to the main building, generally next to the living quarters, and hint at local farmers' adoption of baroque garden forms. Pruned lime trees or fast-growing poplars surround the buildings to protect the farmstead from the wind.

Four aspects are generally distinctive about the appearance of the Moorriem farmsteads:

1. Qualities required of the building pilings: pitched high, a sloping approach to the house, close proximity of all buildings.
2. The economic requirements: all parts of the farmstead within easy reach, working quarters of the house open out to the road and the land being cultivated.
3. The necessity of protecting the farmyard from the wind: L-shaped or horse shoe shaped arrangements of buildings, a stand of trees.
4. The desire to display the economic and social importance of the farmstead, as reflected in the gable design and to a certain degree in the layout of the garden.

The farmhouses of the Moorriem area are predominantly from the 18th century, with very few built before or after this time. Most buildings underwent considerable modification in the late 19th and 20th centuries. The most common type of farmhouse is the Northern German bay hall house, predominantly erected as a double-jointed frame structure which could adapt itself to all farm operations required up until the most recent past. Its basic design can be seen in buildings ranging from the smallest cottage all the way to a spacious and representative main building. The exterior design was completed using framework construction which was white-washed in this region and filled with red brick. The gable sides were more richly decorated than the side walls, in order to enhance the appearance of the building. A characteristic feature of the Moorriem farmhouse gable is the hip-roof jutting far out on oversize beams richly adorned with decorative carving. The hall door is painted green and frequently includes a fanlight. Another predominant feature is the thatched roofs, which are increasingly being dispensed with nowadays to reduce maintenance costs.

Normally, a baking house and a well (Soot) formed a part of the farmyard, almost always situated on the right side of the farmhouse near the gable above the living quarters. Until plumbing fixtures were introduced around the close of the 1920s, all of the water had to be drawn from the well.

Among the changes which farmsteads underwent, particularly in the case of the larger main buildings, were such basic modifications as the removal of open fireplaces and alcoves, extensions to the structure through annexes and the replacement of framework panelling by masonry and conventional roofing.

New requirements in farming, especially over the past 30 years, have also brought about more significant changes which impact on the structure of settlements. Thus, loose box stalls came to be built which could only fit into the proportions and size of the buildings with difficulty due to the limited space available on the building pilings. In some cases they were also erected on the adjacent plots of land for which the long field ditches had to be converted to culverts. The increasing incidence of single unit dwellings on unused plots is blurring the historical contours of the settlement to such a degree that a total zoning development plan is urgently required. This would have to be appropriate to the historical and cultural significance of Moorriem while calling for an especially cautious treatment of the existing structures.

The Stedingen district has remained farming-based over the years, with pastures for grazing dominating the countryside. Important industry has developed on the left bank of the Weser: A harbor port economy and wharf operations in Brake and Elsfleth, ship and boatbuilding as well as aviation industry (Airbus) in the Lemwerder area.

#### 4.4.2.4 Wangerland/Jeverland

In the northeast of the „old“ peninsula - originally reaching all the way to the Weser - the Frisian lands of Wangerland, Östringen and Rüstingen were cut up or obliterated by sweeping incursions of the sea at Harlebucht and Jade Bay, which took place during the Middle Ages, and were subsumed by the formation of the Lordship of Jever and the adjacent Lordships of Inhausen and Kniphausen (including the parishes of Accum, Fedderwarden and Sengwarden). Here we are concerned with the 10 km wide and 15 km long spit of old marsh land which borders on the first small outcroppings of geest near Jever and Schortens and includes small portions of Wangerland to the north and Östringen to the south of Crildumer Bucht. Wangerland is the Frisian Gau name „Wanga“ or „Wangia“, meaning a meadow or plain. The area which originally belonged to Rüstingen was purchased in sev-

eral stages from Prussia, beginning in 1854, and served as the site for the marine harbor of Wilhelmshaven south of the Made.

As part of the modern-day landscape, this old marsh area's outlines and features can still be distinguished from areas with new marsh, even in the wake of renewed dyke building on Harlebucht in the west and Crildumer Bucht in the southeast. The three arms which once comprised Crildumer Bucht were formed at the mouth of the Jade river as early as a few centuries before the birth of Christ, and in its northernmost reaches extended along the present-day Hohenstief and Bübbenser Tief almost as far as Hohenkirchen. South of this point, the incursion turned west and ran along the Poggenburg Leide for a considerable distance into the interior towards Tettens, and the southern branch eventually ran alongside the Crildumer Tief as far as the environs of Förriesdorf. Between these two arms were some upland areas of old marsh and the contemporary communities of Oldorf and Neuwarfen. In summary, based on the latest research, it can be stated that as seawaters receded in the 1st century B.C. sustainable settlement of the Wangerland district on the naturally elevated embankments of the bights and tidal gullies commenced with the erection of three-aisle long bay hall houses in flatland settlements. When sea levels began to rise in the course of the 1st century A.D., the inhabitants of the marsh were forced to erect raised dwelling places for separate farmsteads, of which a large number evolved throughout the ensuing centuries of the Early and Late Roman Empire into sizeable village mounds which today still dominate the landscape. Ziallerns deserves mention as both a lovely and unusual example of a Wangerland mound village, lying roughly 3 km southwest of Hohenkirchen. Its oldest stage of inhabitation is marked by a settlement on the flats from the Late Roman Empire. A unique facet of the Wangerland region is the construction of farmsteads in a radial pattern around the center of the mound, the stables facing out towards the surrounding pasture. The remains of a freshwater cistern (Fething) can still be seen to this day at the crest of the mound - the foot of the mound is encircled by a road.

After the departure of the majority of the Saxon population to England during the 5th and 6th centuries, Frisians apparently re-colonized the area around the middle of the 7th century (the village mound of Oldorf) and, according to archaeological finds, also settled the old Roman

mounds. In the course of the Saxon wars waged by Charlemagne (772-804), the Frisian area of settlement on the southern coast of the North Sea was conquered by the Franks and its people converted to Christianity. The churches built as part of the effort to establish the Church were often placed on top of separate mounds surrounded by a graveyard. These striking church mounds were sometimes erected beside the village mounds (Oldorf, Pakens, Wüppels as well as others), but most frequently situated on top of the village mounds which were already up to 5 meters high (Minsen, Tettens, Waddewarden, Wiarden, Wiefels and others). Accompanying the rise in population which occurred during the High Middle Ages, a surge of new settlements were established which have left their mark on the Jeverland to this very day in the form of hundreds of individual farmstead mounds.

Largely wooded, they create the impression of being islands on a sweeping grassland plain, studding the land with rhythmic regularity while being suggestive of a park landscape.

At the beginning of the 11th century A.D., the inhabitants of the marsh entered into a new phase in their fight for existence against the powers of the sea by attempting to protect their farming land from flooding by building the first dykes. Attempts have been made by those with both a historical and geographical as well as a social interest to prove that the ring dyke - the oldest form of dyke construction from the High Middle Ages - also existed in Jeverland; however, these attempts have not yet been successful. Only the ring dyke which surrounded the previously mentioned early mediaeval village mound of Oldorf and its mound extension built in ca. 900 A.D. can potentially be considered of that

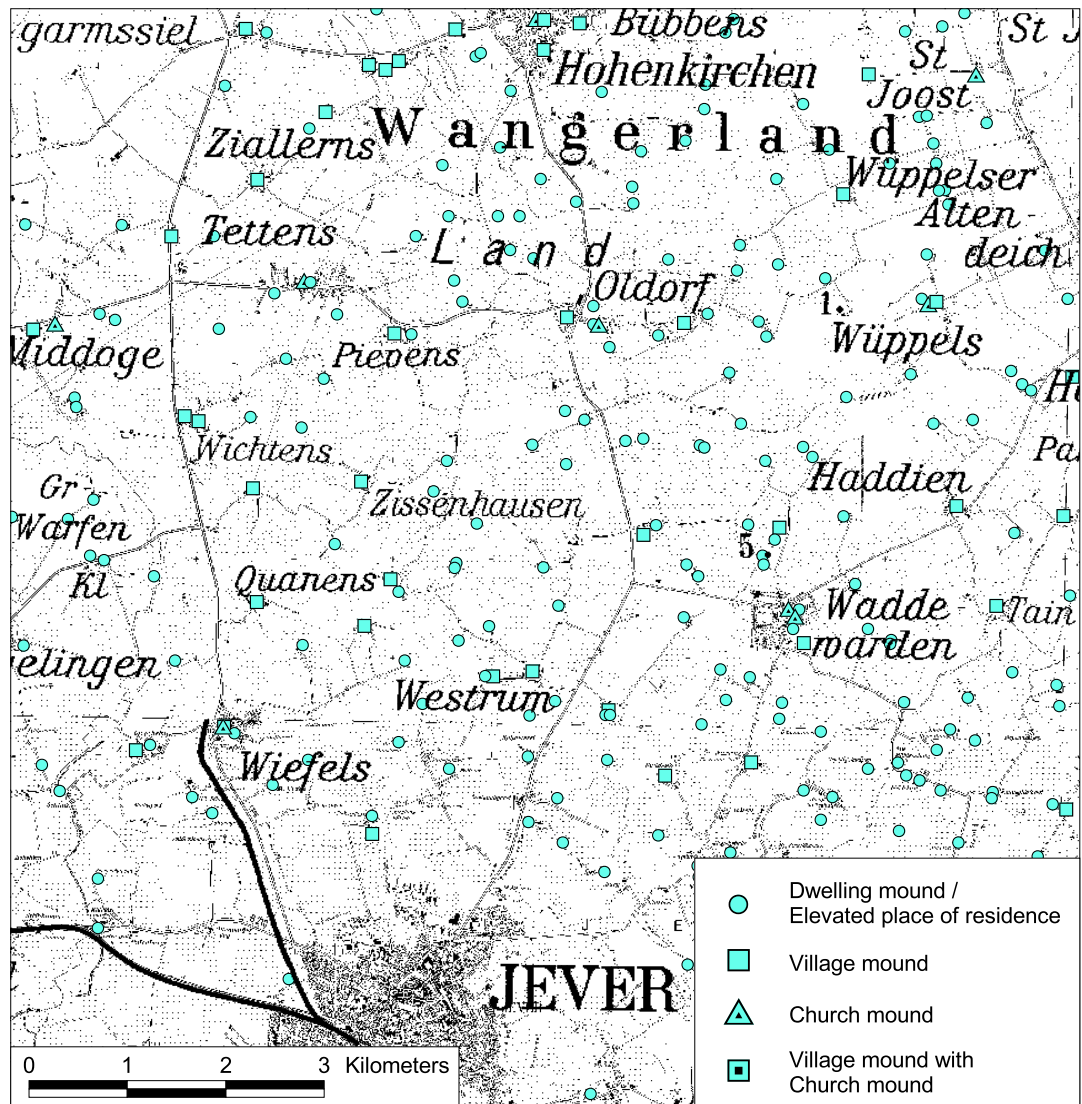


Fig. 4.63:  
The dwelling mound  
landscape north of Jever  
Source: LGN

type. There is clear evidence of the so-called Sietwendungen, low earthen embankments visible above ground along some stretches in that area, which were erected on the banks of the natural tidal gullies. According to soil studies and historical and geographical evidence, the dyke-building carried out on Crildumer Bucht with dyke lines running at right angles to the water courses apparently took place in six steps from the late 11th to the 13th centuries. Through rapid advances in the technology of dykes and sluice building, the 13th century witnessed the completion of the regional dyke - referred to in historical documents as a „golden collar“ - which girded the coast of the East Frisian peninsula and is a distinctive physical feature of the land visible for many miles. This stretch of dyke begins in the southwest of Wangerland as a dyke to protect against Harlebucht at Hammshausen west of Tettens (Tettenser Altendeich) and then follows a long arc through the sluice harbor of Altgarmssiel as Medernser and Funnenser Alterndeich on a path to the northeast in the direction of Minsen and Horum. There it bends in towards the south to Jade Bay and continues as Osteraltendeich, Wiarder, St. Jooster, Wüppelser and Pakenser Altendeich to Hooksiel. In the far north, early dyke works and shifts in their location during the 16th to 18th centuries makes the situation somewhat uncertain; the risk of flooding is also clearly evident at this highly exposed area of the state's protective dyke line.

The area within this ring of dykes - unlike the regular formations in the groden - is covered by a finely meshed irregular network of drainage ditches, through whose winding path the canals can be recognized as natural water courses. Only in the east do smaller areas with a more patterned structure show the position of the Crildumer Bucht which had already dried up by that time.

In the north-west of Wangerland the various dyking operations of modern times to gain more groden in the vicinity of the former Harlebucht are still very easy to discern based on the excellently preserved dyke ramparts. In the northeast, however, part of the groden land that had been gained along the Outer Jade had to be relinquished again after the heavy tidal floodings of 1693 and 1717. The only dyke line which has been well preserved is the section dating from 1591 leading from Horumersiel through Hohenstiefersiel to Hooksiel.

In the well established scattered settlements of the northern Jeverland, church mounds form

the centre of church parishes of various sizes, in fact probably first limited to being the foundation of churches or - as can be proven for Wüppels - limited to this function through the relocation of farmsteads to the surrounding district. Nearly all churches can be dated to the (Late) Romanesque Period and are built of square granite blocks which are relatively intact. Only the small buildings of the same period in Westrum und Wüppels are purely brick structure as are the Late Gothic churches in St. Joost and Middoge which grew out of chapels and were only later established as separate churches after having become part of the extended Hohenkirchen and Tettens parishes. Only in Accum was a new church building erected in Baroque style in 1719.

The stone-built stereotype of parsonages characteristically found in the western part of the region appears to have been less common; remains of such highly modified structures have only been preserved in Hohenkirchen and Sengwarden, though in substantially changed form. It appears that gulf houses more frequently served as parsonages. Stately living quarters dating from the 17th century still stand as gulf house in Wüppels and Waddewarden, while in Middoge and Wiarden gulf houses date to the 19th century.

Over time, this basic building stock has been extended through the addition of a school, tavern and general store. It is especially the small and more remotely situated church mounds which have not developed beyond their most basic form, most tellingly illustrated by the hamlets of Wüppels, Pakens, St. Joost, Westrum and Middoge. By contrast, the centres of the larger parishes, above all Hohenkirchen as the main city in the Wangerland, but also Tettens, Waddewarden, Sillenstede, Sengwarden and Fedderwarden have developed into larger villages since the second half of the 19th century through the building of trade, commercial and residential buildings. Especially here more and more widespread new residential communities have resulted since the Second World War and continue to emerge today.

The former church mound Mederns on the Altdeich north of Tettens is a case of its own. After the majority of their parish was lost to the waters of Harlebucht, the remainder was made a part of the Tetten parish and the church building abandoned. The mound however continued to serve its purpose as a cemetery - thus calling its earlier function to mind at the same time.

The single-family farmstead mounds are most dominant among the mounds, then come those with two to three farmsteads. Larger mounds suggestive of a village with up to 6 farmsteads and secondary buildings are found less frequently by comparison. Ziallerns (northwest of Tetens) is noteworthy for its perfectly circular layout and radial inner subdivisions (see above); Uthausen (east of Oldorf) for its elongated form and the parallel arrangement of the farmstead roof ridges; Uppers (east of Sengwarden) for its square-shaped, block-like sense of direction, with all farmsteads facing one way; Wichtens (southwest of Tetens), Stumpens (northeast of Wiarden), Haddien (to the east of Waddewarden) or Wehlens (west of Sengwarden) for its irregular form and inner sectional design.

With only very rare exceptions at the edges of church mounds, farming sites are scattered across the district on separate mounds. Establishing new settlements on the flat coastal plain or abandoning mounds - which left many mounds lying completely deserted - are relatively rare in the old marsh, but typical in the groden, for example in the dyked groden of the 16th century on the Jade Bay between Horumersiel and Hooksiel or in the groden of Harlebucht.

The older gulf houses can be distinguished from dwelling forms otherwise common to East Frisia due to their long and generally low-ceilinged, four-post-square construction - the use of interior posts remained features of this building style into the early 18th century. If they are in fact from the 16th century, these buildings apparently contain the material substance of previous gulf house living quarters - and when dating from later times, have been modelled on this type of housing. Stone houses based on the prevalent Western style are not to be found here, but instead „Steinenden“, one-room additions with a cellar in Renaissance forms as handed down in Maihausen or (with an imposing chimney) in Stumpens and at Sander Seedeich and in several other cases (Horum, Breddewarden) were included in rebuilding measures. In the 17th century, however, splendid four-room living quarters laid out in a cross pattern already existed with high brick outer walls providing the superstructure.

With only a few examples falling in earlier times, gulf barns were most likely introduced here also from the second half of the 17th century onwards as common way to arrange for work quarters. In the Altmarsch - where farmsteads raise pasture animals or carry out mixed

farming with an emphasis on pasture-grazing - they do not match the length of the same types of buildings in Krummhörn, for example. There, the gulf houses are generally far more modest in their classic and historical lines. There are scattered instances of barns and baking houses from the 19th century as secondary structures.

In nearly all cases, castles or permanent homes of the headmen and early large-tract farmers also blended into the system of scattered mounds. It is difficult to judge the various levels of social strata among those of the upper class because many of the headmen's dwellings were converted into farms and, conversely, some farmsteads came into the possession of nobility. Both post-mediaeval living and working buildings can be distinguished only by fine details from those of the normal farming population. However, the difference between the respective types of living quarters must have been considerably clearer at the time of their construction, as borne out by examples which should probably be considered in this context from the 16th and 17th centuries (Nenndorf near Waddewarden, Maisidden near St. Joost, Stumpens near Wiarden, Putzwei, Heddoburg and Tidofeld near Sengwarden). The same is true of manorial steadings such as found at Maihausen near Pakens. The respective sites were surrounded by moats which in most cases are still extant today.

There is apparently no remaining building material above ground; in the period which follows, the only „true“ castle which could establish itself was Kniphausen in the immediate Lordship of the same name. After the fire of 1708, only the duke's stables and gatehouse of the fortification walls exist from the 16th century. Miss Maria von Jever had a castle built near Sande (Alt-Marienhagen), which was razed in 1826. Only a single gulf house remains as working quarters on a twin-moated island beside a tower visible from afar, both dating from the first half of the 18th century. While considerable numbers of small castles have disappeared (for example Rickelhausen near Westrum or Canarienhagen near Waddewarden), Groß Scheep near Wiefels and the particularly impressive Fischhausen near Wüppels offer a modern-day impression of this type of structure.

The windmills should also still be pointed out as landmarks and also because they were erected on the edge of or beyond the church mounds, of which - sad to say - within our immediate area only the ones in Tengshausen, near Stumpens, near Accum, near Sillenstede and