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ABSTRACT: Leeuwarden is said to have been a market place since at least 1000 AD as Leeuwarden minted during the 11th century. Although an important non-agrarian component is likely to have existed in Leeuwarden during the 11th and 12th century and even earlier trading contacts can be demonstrated, the exact economic role of Leeuwarden remains unknown due to the lack of information concerning both Leeuwarden and the contacts of the nearby villages.

KEYWORDS: Middle Ages, *terpen*, Frisian trade, subsistence peasant economy, market peasant economy

1. INTRODUCTION

Before dikes were built to protect the region, from the 11th or 12th century on, the sea regularly flooded the salt marshes of the coastal region of the northern Netherlands and Germany. As a result of the continual rise in sea level the salt marshes became repeatedly elevated, while here and there new salt-marsh ridges were formed. Ultimately occupation was possible on these new ridges too and consequently successive generations of settlements can be distinguished depending on the age of the various salt-marsh ridges. Because of the activity of the sea in the course of time the inhabitants were forced to raise their occupation level, or alternatively, to leave their dwelling place. The dwelling areas that were raised in this way are called *terpen*. In some cases these remained at a low level and were only large enough for a single farmstead, while in many other cases these *terpen* became united into a village *terp* at a height of several metres. Only after 1200 AD was there sufficient protection afforded by the dikes to sever the direct connection between the development of raised settlements and the activity of the sea.

On account of the constant need to build new *terpen* and to raise already existing ones, for a large part of the Middle Ages the way of life in the coastal region of the northern Netherlands and northern Germany was exceptional. Because of the special conditions that required the dwelling sites to be raised, and because of the height of the *terpen* and the finds made in *terpen* of thick dung layers and remains of cattle stalls, it was assumed for a long time that the *terp* inhabitants must have been almost exclusively dependent on stock-breeding, and that agriculture could only have been practised

on a very limited scale. This view was inspired by the classical writer Pliny, who had even described the coastal inhabitants as wretched fisher-folk, while a conspicuous living example of such an economy was provided by the *Halligen* in North Friesland (Germany), the well-known German *terpen* that in the 17th century became situated once again on the seaward, unprotected side of the dikes that became completely flooded during high spring tides. The firmly established view that the *terp* dwellers were stock-breeders excluded the possibility of agriculture having been practised on any significant scale, but this view was by no means self-evident. The local conditions must have been excellent for stock-breeding, fishing and salt extraction, but this does not mean that agriculture was hardly practised. Pliny must have been describing exceptional circumstances, and he must have coloured his report with astonishment. As for the *Halligen*, they cannot simply serve as an example for the medieval *terpen* on the higher salt marshes in the northern Netherlands (Slicher van Bath, 1968). Cattle stalls for large herds of cattle have also been found on the areas of sandy soil in Drenthe (Waterbolk, 1980), thus in the proximity of the *terpen* region, in a region where it is indeed assumed that mixed farming was practised. Although the dung layers in the *terpen* are impressive here and there, there are feasible explanations for this: the intentional collection of dung, the automatic accumulation as a result of people living on the same spot for many centuries in succession, the mixing of dung with other refuse material like plants, wood, bones and pottery, and the optimal conditions for preservation. Finally there is the argument of special circumstances. Although the economy in the coastal region must have been dependent to a great extent on the vagaries of the

sea, this in itself was nothing out of the ordinary, for elsewhere too natural phenomena could result in a failed harvest. In any case the salt water did not flood the fields every day, but only during high spring tides which mostly occurred outside the growing season. Especially during periods of regression it must have been possible to practise agriculture, not only on the flanks of the *terpen*, but also on top of unoccupied *terpen* and even on the highest parts of the salt marsh. It is certainly possible to obtain a good harvest on a saline soil, as recent experiments have shown. The *terp* dwellers actually did grow grain crops, as is evident from the remains of unthreshed grain and the presence of a few traces of ploughing (Körber-Grohne, 1967; Körber-Grohne & Kroll, 1984; van Zeist et al., 1976; 1987; Haarnagel, 1979; Bottema et al., 1980; Behre, 1984).

There is another factor of importance involved in forming an impression of the medieval economy in the clay-district of the present-day province of Friesland. In the medieval historical records the Frisians are not unknown as traders. This made it tempting to attribute to the Frisians an important role in early medieval international trade. The view that the farmers in the northern Netherlands lived in a rather secluded society gradually became superseded, after the Second World War, by the opinion that the Frisian farmers in the northern Netherlands had a large share in early medieval trade (Niermeyer, 1937; 1977a; 1977b; Slicher van Bath, 1948; 1949; 1968; van Buijtenen, 1953; Jansen, 1976; Schuur, 1979). Yet the active participation of the Frisians and in particular those of the northern Netherlands in that trade has probably been overestimated (Lebecq, 1980; Hodges, 1982; Halbertsma, 1987).

Not only do the *terpen* preserve the finds particularly well, with even bones remaining in good condition, but they also concentrate the finds. Consequently in terms of distribution the material is very readily accessible, as soon as the *terp* is sectioned. This procedure of sectioning *terpen* was almost an everyday practice at the turn of the century, when many *terpen* were dug away for the supply of fertile *terp* earth, which was transported to areas of poor soil. For a long time a disproportionate amount of archaeological finds were known from the coastal region, which created the impression of a densely populated and rich *terpen* culture (Niermeyer, 1937; 1977a; Slicher van Bath, 1948; 1949; 1968). Only after research was carried out, after the Second World War, in other parts of the Dutch coastal region was this imbalance redressed to some extent.

The fact that early medieval Friesland included the entire southern coastal region of the North Sea has often been overlooked, and as a result too much

emphasis has been laid on the inhabitants of present-day Friesland. The trade carried on by the Frisians of the coastal area of Holland and the riverine region of the Central Netherlands cannot be equated with that of the *terp* dwellers of the northern Netherlands. This was done nevertheless, when (1) the import products from the *terpen* were interpreted as evidence of long-distance journeys undertaken by the *terp* dwellers themselves, even though notably German archaeologists have taken into account the contribution of visiting traders (Brandt, 1977; Jankuhn, 1980; 1984), and (2) contrary to previous views, a continuity of trading contacts was implied when the distribution of 11th-century Frisian coins in the Baltic Sea region was explained as a consequence of earlier trade relations, and vice versa (Niermeyer, 1977b; Slicher van Bath, 1948; 1949; 1968; Schuur, 1979). The staple trade, which had indeed been regarded as one of the causes of the rise of Dorestad, was strangely enough hardly involved in the discussion on trade carried out by the *terp* dwellers (compare: Jankuhn, 1980; 1984). Evidently the transfer of goods from one large depot to another, thus transportation in stages through various intermediate traders, was thought to be not applicable to the Frisian trade. Yet if we consider the possibility of such a trade of staple goods in relation to a subdivision of the North Sea region into various territories, with on the borders connections with the great international markets, then the role of the Frisians appears in a different light (van Es, 1980; Jankuhn, 1980; Hodges, 1982).

This discussion has been confused with another historical problem, namely that of Frisian independence. During the later Middle Ages, although probably only after 1200, the Frisians of the northern Netherlands had obtained freedom from far-reaching feudal influences (Slicher van Bath, 1949; 1968; Formsma, 1976; Vries, 1986; Schuur, 1988), and this called for an explanation. This politically exceptional position was probably confused with the peripheral situation of the coastal regions. Also economic causes were looked for, and in this connection some historians did not hesitate to make use of information concerning the centuries before the actual independence, suggesting that the freedom had been obtained as the culmination of a very gradual process. As a result also the study of the position of Friesland within a wider context became important for a correct interpretation of Frisian trade. This is no simple matter, for the period 800-1200 was by no means a politically stable period. Friesland was indeed included as part of first the Carolingian and later the Holy Roman empire, but it remained a peripheral region, where the vicissitudes of the exercise of power would have been clearly felt.

One therefore wonders whether the special nature

of the way of life and the late medieval developments did not distort the picture of the early medieval economy of the *terp* dwellers, and whether the Frisians of the coastal area actually did have a distinctively different economy. In studying the economic development of Friesland between 800 and 1200 AD one therefore has to consider whether the economic changes that took place elsewhere in the coastal region of the North Sea and the immediately surrounding parts can also be assumed for the coastal region of the northern Netherlands. It is clear that the development of trade is an important field of study. In this article a report is given of the provisional results of research on the role of Leeuwarden. In the 11th century Leeuwarden had its own mint, and in the late Middle Ages it was the most important market place of Oostergo, a district of the present-day province of Friesland. The area of Leeuwarden and surroundings illustrated here is only a part of Oostergo (figs 1 and 2).

In the study of trade in medieval Leeuwarden there are three basic problems involved:

1. What was the structure of the settlement?
2. What indications of trading are available?
3. What was the structure of this trade?

For each of these problems working hypotheses were formulated with the aid of already existing views, as follows:

1. The question as to the structure of the settlement is determined by the view that trading settlements in the salt-marsh region had a distinctive structure. According to this view Leeuwarden must have contained already at an early date elongated *terpen*, streets, one or two churches, and non-agrarian houses.

2. In view of the overall development of North European trade and the situation of Leeuwarden it is to be expected that throughout the entire period Leeuwarden bought goods that had come from elsewhere. In this respect the nature of the products involved as well as the extent and the limits of the trade are of importance.

3. In comparison with developments elsewhere it may be assumed that also in Friesland there was a transition from a subsistence economy to a market economy.

The hypotheses are tested in each case from two points of view, with the aid of historical and archaeological material.

2. THE STRUCTURE OF LEEUWARDEN

2.1. Introduction

Since 1955 Haarnagel, Reinhardt, Brandt and other German archaeologists have developed the theory that in Friesland from the 8th century on there were exceptional settlements which specialized in trade



Fig. 1. The area of Leeuwarden and surroundings.

and industry (Haarnagel, 1955; 1984; Reinhardt, 1959; 1965; 1969; 1970; Brandt, 1977; 1979; 1984; 1986). In their view the *terpen* whose inhabitants were closely involved with trade were elongated in shape, while the settlements consisted of street villages. Accordingly the shape of the *terp* and the structure of the settlement became important for the study of the trading role of a settlement. These views were based on the results of excavations at Emden in 1951-53, where Haarnagel exposed remains of houses which did not resemble ordinary farmhouses, and where he was able to show that one of the streets of the later town was of great antiquity. The *terp* had evidently been elongated in shape right from the start (Haarnagel, 1955; 1984). Later on a small excavation in Groothusen (Ostfriesland) seemed to confirm the newly formed ideas about the existence of special trading settlements in Friesland with a distinctive external appearance (Reinhardt, 1965; 1969).

There is a danger with this theory of trade-oriented *terpen* inasmuch as it is tempting, in view of the lack of hard evidence of a great antiquity of the street village, to interpret the elongated *terp* shape as evidence of early medieval trade. This is a circular argument: the industrial and the trading sectors of the Frisian working population in the late medieval period can be linked with a few elongated settlements; these settlements lie on elongated *terpen*; the shape of the *terpen* is older than the late Middle Ages; the elongated shape is early medieval and

therefore the trading function is early medieval too. But the early medieval origin of occupation is in itself no proof of a trading function of the settlement, because during the entire *terpen* period new *terpen* were being built. It became possible to abandon old *terpen* in favour of occupation of new salt-marsh ridges, when the old ones came to lie relatively too low. It was also possible for shifts in occupation to occur, whether or not there had been a break in the continuity of occupation. In such cases it sometimes happened that an old *terp* was not reoccupied. People moved away to another site where they ultimately or immediately built a new *terp*. The underlying reason for this decision to avoid settling on the old *terp* was probably a change in the local conditions. The new spot may well have been higher than the base of the old *terp* because of greater deposition of silt, or the course of water channels through the salt marshes may have altered. Also an elongated *terp* shape of early date is hardly evidence of trading. It is obvious that settlements in the marine-clay areas had an elongated shape during their first phases of existence, as the very first inhabitants settled on levees. Moreover it is known that *terpen* that were established in the early Middle Ages often have a block structure (Waterbolk & Boersma, 1976) instead of a radially divided shape, which makes the problem more complex.

The fact that a trade-oriented *terp* could well be developed after the Carolingian period as the extension of an older agrarian component is shown by the results of the historical and archaeological study of Langwarden in Butjadingen, North Germany. In the course of the 11th and 12th century Langwarden acquired the shape of a street village with a church at each end. The distance from the older church to the newer one was about 450 m. The occupation that specialized in trade and industry was concentrated to the west and south of this second church. The structure of the older church *terp* was altered to accommodate the new function of the village. The settlement had a favourable situation, with traffic being possible by water as well as along the dike (Krämer, 1982; Brandt 1986).

The views on trade-oriented *terpen* also played a leading role in the study of the medieval economy of the northern Netherlands. It was soon pointed out that such *terpen* were also present in the Dutch marine-clay region, and that they included the *terpen* of the towns of Dokkum and Leeuwarden, both in Oostergo (Klok, 1974-75; Brandt, 1977; Schuur, 1979; 1982; Vroom, 1980; Miedema, 1983). Such pre-urban centres were probably indeed of great importance for trade and the development of the later towns in the northern Netherlands. Nevertheless hardly any archaeological research has been carried out in the Netherlands specifically concentrating on these trade-oriented *terpen*. Therefore

with regard to the trading activities of Leeuwarden it is important to study the medieval structure of the settlement, paying special attention to the following aspects:

1. The shape of the *terpen*.
 2. The structure of the occupation or the street-pattern.
 3. Churches and non-agrarian houses.
- Concerning these aspects both historical and archaeological sources are available.

2.2. History

Before 1000 AD

The town centre of Leeuwarden originated as a result of the coalescence of the occupation of three *terpen*, namely the Oldehove *terp* on the west side and the two *terpen* of the later Nijehove on the east side, at the spot where the small river Ee debouches into an arm of the sea (Middelzee; fig. 2). During the post-Roman transgression period the course of the bog stream known as the Boorne had been broadened into the Middelzee. The name Middelzee originates from a later time, however. In the Middle Ages the Boorne or Bordine functioned as the border between Oostergo and Westergo, the two northern districts of Friesland between the Vlie and the Lauwers (Jappe Alberts, 1981). It is possible that in Roman times already the Boorne flowed past the spot where Leeuwarden later developed, but this would mean that the later broadening of the Boorne must have taken place mainly towards the west. In any case, at the time of the 9th- and 10th-century Dunkirk IIIa transgression, the settlement lay almost immediately next to open water (fig. 4). Consequently a tidal influence will have been clearly noticeable also in the Ee (Stiboka 1981; compare: Boeles, 1951; Cnossen, 1958; 1971). The mouths of the river will have become funnel-shaped as a result of the tidal influence, while the mainstream will have been considerably wider than the later remnants of this river. Thus the surroundings of Leeuwarden were subject to distinct changes, which would have influenced the building of the new *terpen* of Leeuwarden. It is possible that the Oldehove *terp* came to lie in a more unfavourable position with respect to the farmland, on account of the broadening of the Boorne, and this may have prompted the shifting of occupation. The levees of the Ee will have provided good possibilities for settlement. Therefore even if the *terpen* of the trade-oriented part of Leeuwarden were elongated before 1000, this does not necessarily mean that trading activities can be assumed to have taken place here as early as the early Middle Ages. Also it is possible that, associated with the date of founding, Leeuwarden had a block structure. At the beginning of the 9th century the settlement and the surrounding

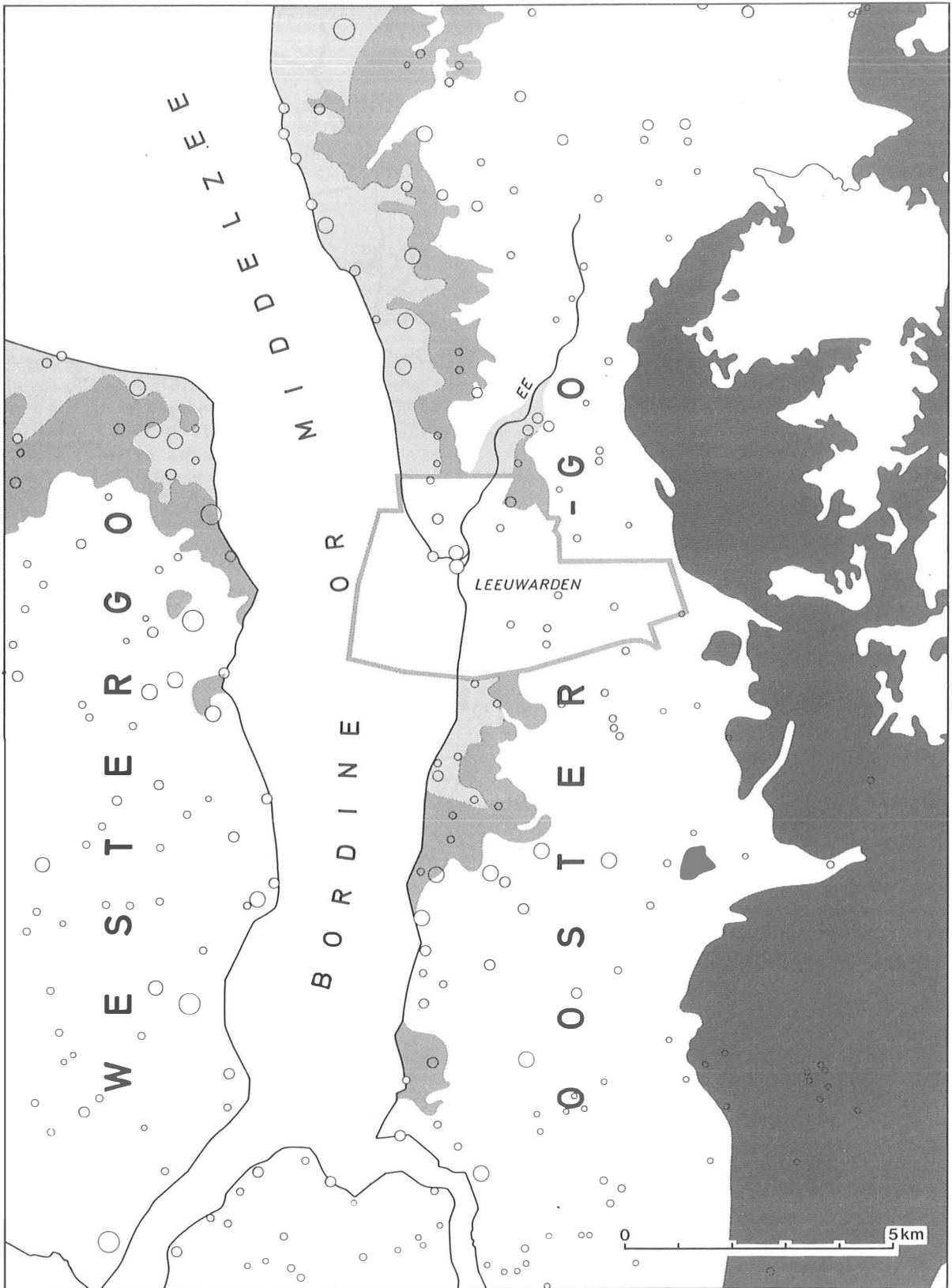


Fig. 2. The area of Leeuwarden and surroundings before 1000 AD. For explanation see 3.2.1.

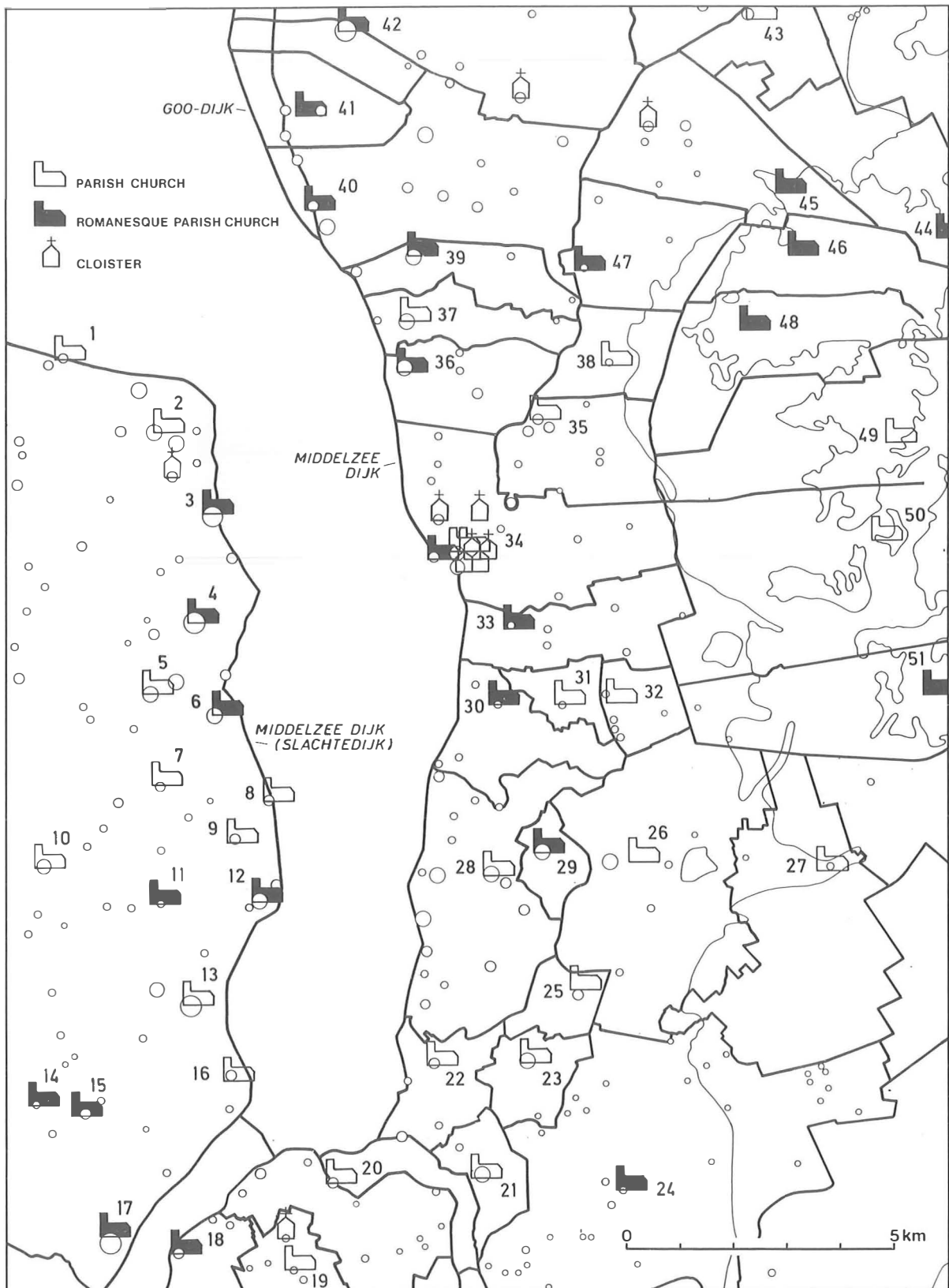


Fig. 3. The area of Leeuwarden and surroundings during the 11th and 12th century. Indicated are the distribution of Romanesque churches (in black), the late-medieval cloisters, the historical parish boundaries east of the Middelzee, and the first dikes.

land were known as *villa Lintarwrde* (Halbertsma, 1968; Schuur, 1979).

11th and 12th century

Concerning the Oldehove *terp* and its church the following information is available. The name suggests that Oldehove was the oldest nucleus of Leeuwarden. At first the whole settlement formed part of the *kerspel* (i.e. parish) of Leeuwarden-Oldehove. The presence of a church during the 11th and 12th century was in itself not very remarkable, as is evident from the distribution of Romanesque churches in the neighbourhood of Leeuwarden (Steensma, 1966; van den Berg, 1970; Halbertsma, 1968; 1969; 1976a; 1976b; 1977; 1978; van der Molen & Vogt, 1981) (figs 3 and 5). The parish church of Leeuwarden-Oldehove was dedicated to St. Vitus, as a number of churches were in the bishopric of Utrecht. The dedication to St. Vitus of various churches around Leeuwarden was connected with the influence of the Abbey of Corvey on the Weser (Germany). At first, the church of St. Vitus in Oldehove was subordinated to this abbey, and it is possible that the veneration of St. Vitus spread over the Middelzee region from the Leeuwarden church (Kok, 1958). In spite of complaints made by the Abbot of Corvey in 1148 and 1149 about the unauthorized activities of the priests of the church of St. Vitus in Leeuwarden, the abbey lost its grip on the church, probably never to regain it. Subsequently local potentates were in control of the church for some time, until during a new dispute in 1285 it came under the protection of Mariëngaarde, a monastery that lay some distance away from Leeuwarden (van Buijtenen, 1950; Kok, 1958; Halbertsma, 1968; 1969; van Es & Miedema, 1970-71; van den Berg, 1970; Schuur, 1979; Elzinga, 1985a; 1985b; Karstkarel, 1987).

Considering the two other *terpen*, those of the later trade-oriented area of Leeuwarden called Nijehove, from their present-day shape and early historical street pattern nothing more can be concluded than that they could have been elongated right from the start (fig. 5). Nor can we be certain that the northern *terp* had the Speelmanstraat and the southern *terp* the Poststraat as their main axes, as has been assumed previously (Schuur, 1979). Thus there are only few historical data available as regards the structure of Leeuwarden. It is possible, though, to acquire more information by means of comparison with other settlements. If we compare Leeuwarden with the above-mentioned Langwarden then some similarities can be discerned. The distance between the two churches of Langwarden was about the same distance between the later parish church of Nijehove and the Oldehove church. With regard to water-borne traffic it can be said that

Leeuwarden, situated as it was on the Middelzee at the mouth of a stream like the Ee, was certainly in a favourable position. The building of the dikes in the 11th and 12th century added another dimension to this, inasmuch as the dikes could have stimulated traffic over land to a considerable degree. At Leeuwarden the traffic along the dike met the water-borne traffic along the Ee. It is possible that by about the 11th century already this water course became linked up with the Dokkumer Ee, just as the streams in Staveren and Winsum in Groningen became extended (Halbertsma, 1982). I shall return to the subject of the 11th-century mintage further below.

13th and 14th century

In the first half of the 13th century Leeuwarden acquired a Dominican monastery, which was officially recognized by the order in 1245 (Halbertsma, 1972; Schuur, 1979) (fig. 6). Opposite this monastery there stood, still on the old *terp*, the parish church of Nijehove. According to Schuur this church was founded at the end of the 13th century, and the building of this church was connected with the juridical separation of the trade-oriented part around this time (Schuur, 1979). According to Karstkarel, however, this church, which was dedicated to the Virgin Mary, could have been built slightly earlier, in the 12th century already (Karstkarel, 1987). The trade-oriented part could have been extended about the 13th century with a settlement on the southern branch of the Ee (Schuur, 1979).

With reference to the three questions about the structure of Leeuwarden, it can be established that on the basis of the historical data on the development of post-medieval Leeuwarden predictions can be made regarding the medieval development of the settlement. Some predictions can be made for as far back as the 11th and 12th centuries. Yet the historical data do not give a clear picture of the precise structure of the settlement before the 12th century.

1. The presence of three *terpen* is not particularly important, as this occurs elsewhere. The two *terpen* of Nijehove, the later trade-oriented part of the town, were probably already elongated in the 11th and 12th century.

2. As for the structure of the settlement, on the basis of historical data nothing can be said that could be of importance for the identification of Leeuwarden as a trading settlement.

3. This also applies to ecclesiastical and non-ecclesiastical building activities before 1200 AD, although the founding of a second church is an important event which requires further study.

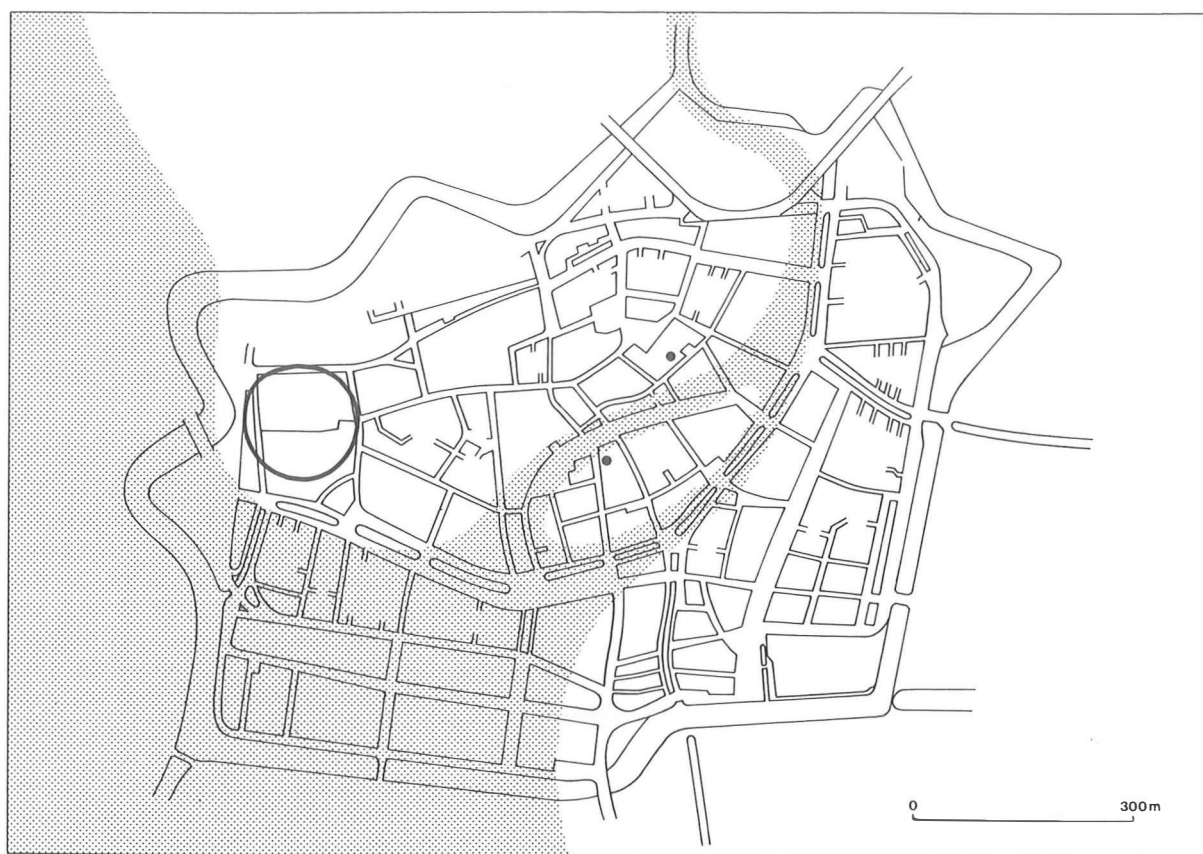


Fig. 4. Leeuwarden before 1000 AD. On the left the Oldehove *terp*; the dots indicate the find-spots of Carolingian pottery in the Nijehove area.

2.3. Archaeology

Before 1000 AD

Archaeological research has shown that the occupation on the Oldehove *terp* must have commenced around the beginning of the Christian Era. It can be assumed that the levee of the Ee and/or Middelzee provided a suitable place for settlement. Before the dikes were built in this region it was necessary to raise the level of the dwelling area after some time, and accordingly in Leeuwarden too the dwelling area was raised several times during the first few centuries of occupation. The *terp*, which may have been abandoned in the pre-Carolingian period as a result of the post-Roman transgression, attracted farmers once again in the early Middle Ages. During this occupation phase the *terp* was raised once again (van Es & Miedema, 1970-71). The precise shape of the Oldehove *terp* is not known, but the *terp* probably extended towards the south and was small in size (Schuur, 1979)(fig. 4). A church may have been added to the settlement already before 1000, although there is no evidence of this. Halbertsma, during his investigation of the building

of the church of St. Vitus, did not find any remains of a wooden predecessor (Halbertsma, 1968; 1969; Elzinga, 1985a; 1985b).

During excavations in 1979 and 1982 Carolingian pottery was found (de Langen, 1989; in press). Whether both *terpen* originated only as late as this time is not known, nor is it possible to say anything with certainty about the infrastructure. The elongated shape of both *terpen* may originate from the period after 1000. In fact we have to admit that on the basis of archaeological data too nothing definite can be said about the shape of early Leeuwarden. Therefore on the reconstruction drawing of early medieval Leeuwarden only the find-spots of Carolingian pottery are indicated, and no attempt has been made to sketch the shape of the newly developed area (fig. 4).

The excavation of 1979 showed the erosive effects of the water of the Ee or the locally surging seawater (de Langen, 1989). It is assumed that the Ee must have split up into two arms just before debouching into the Middelzee (Elzinga, 1962; CASOL 1979; Schuur, 1979; Elzinga & Kramer; 1985; de Langen, 1989; compare: Eckhoff, 1846). It is possible that

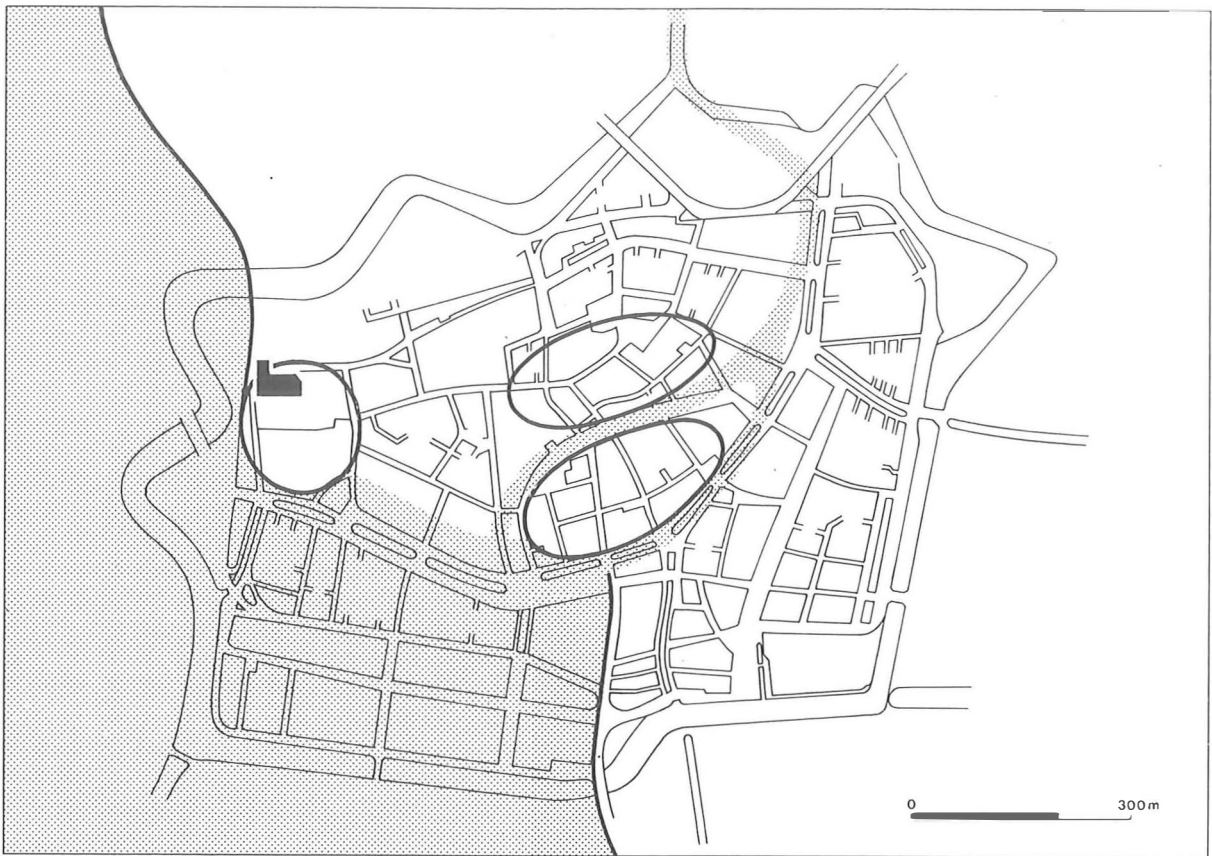


Fig. 5. Leeuwarden during the 11th and 12th century. On the left the Oldehove *terp* with the St. Vitus church and on the right the two elongated *terps* of the Nijehove area.

the landscape around Leeuwarden was determined by other, smaller creeks and streams, which debouched into the Ee or directly into the sea. Nothing much can be said about this at the moment; an extensive network of borings could probably provide further information (compare: Reinhardt, 1959; Brandt, 1977; 1979).

11th and 12th century

We know more about the shape of the settlement during the 11th and 12th century. The above mentioned investigation into the architectural history of the church of St. Vitus at Oldehove has shown that the church existed already during these centuries and that it was built using tuff stone (fig. 5). The Oldehove church of St. Vitus was probably one of the first tuff-stone churches of Oostergo. It differed in its 12th-century shape from most of the other churches in the locality, although it greatly resembled the abbey church of the Premonstratensian monastery in Dokkum (Halbertsma, 1968; 1969; 1970). The shape of the *terp* would have remained almost the same, except for a small extension.

Both of the other *terpen* must have grown considerably in this period. The growth occurred both upwards and outwards, as excavations and various surveys have shown. The elongated shapes must certainly have been present in this period, although the *terpen* would not have been occupied intensively on the periphery.

Nothing is known about the pattern of streets in Leeuwarden at this time. So far it has not been possible to obtain a cross section of one of the main streets. It would be advantageous if such a profile were to become available for study in the future.

13th and 14th century

Archaeological research has shown that in the middle of the 13th century the northern *terp* was enlarged to accommodate the building of the Dominican monastery. The expansion of the trade-oriented area with a settlement over the southern branch of the Ee could not be demonstrated by means of archaeological research (fig. 6). It is likely that apart from this expansion the extent of both *terpen* hardly increased. Archaeological research suggests that the expansion took place predomi-

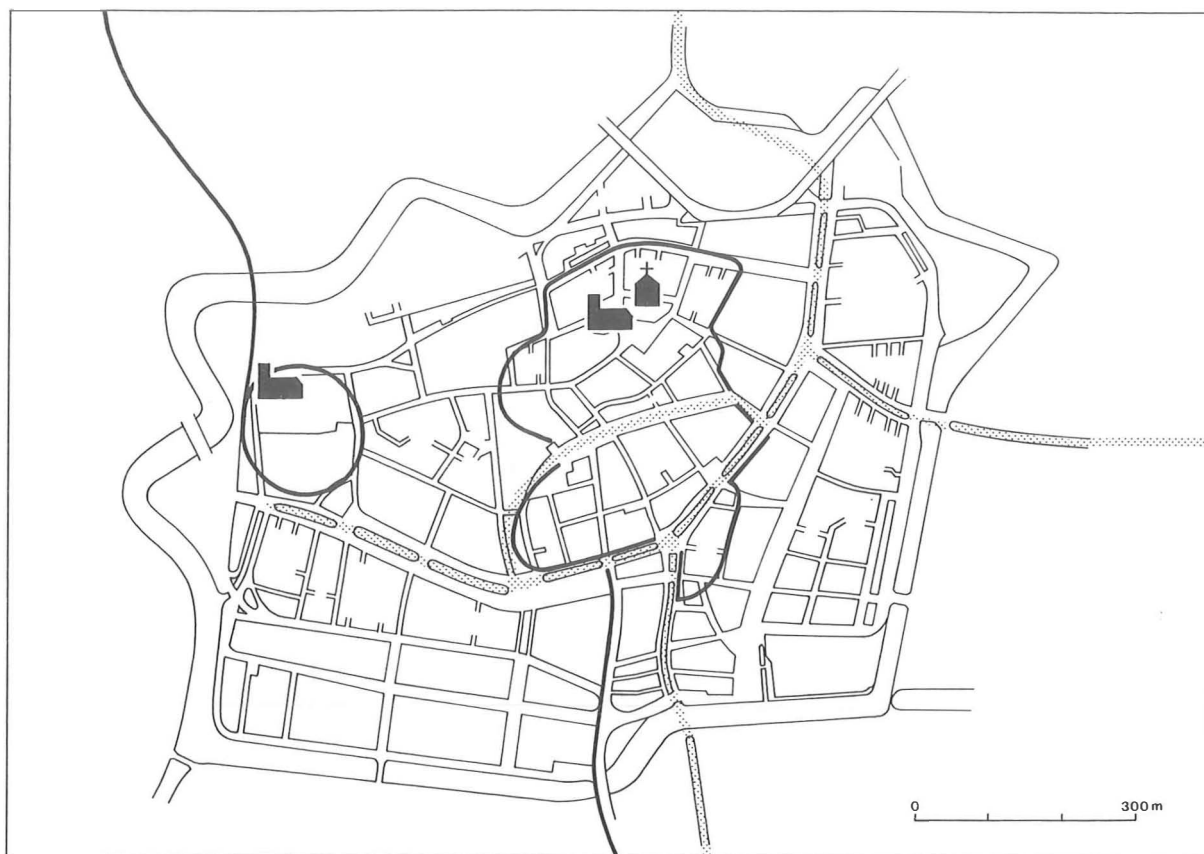


Fig. 6. Leeuwarden around 1300 AD. On the left the St. Vitus church of Oldehove, on the right the Nijehove area with the parish church of Nijehove and the Dominican monastery.

nantly in terms of buildings being more closely packed together.

Like the historical sources, the archaeological evidence provides no information about the shape of the settlement before the 12th century.

1. Both Nijehove *terpen* were already elongated in the 11th and 12th century. It is not known whether they had this shape already earlier. It seems likely that both *terpen* were first built along the banks of the Ee during the Carolingian period.

2. The research has not provided sufficient information to enable us to conclude that Leeuwarden was a street village.

3. Nothing can be said about the nature of the houses of the settlement.

3. THE LIMITS AND EXTENT OF THE TRADE

3.1. Introduction

During the Middle Ages trading went on around the North Sea at different levels. The intensity and extent of the exchange of goods was dependent on

the distance over which the goods had to be transported. Apart from the local supply of commodities for everyday domestic consumption, three levels can be distinguished involving the crossing of political borders. These levels are: firstly the regional, secondly the interregional, and thirdly the international level. There were nevertheless connections between these different levels of trading.

3.1.1. *The first level (within the region)*

At the basis of the economy there was the local supply of goods for domestic consumption, which was very important between 800 and 1200. We may assume that the Frisian farmers were self-sufficient to a large extent, and, conversely, that they adjusted their needs depending on what was available to them, this being common practice in medieval agrarian communities (Slicher van Bath, 1960; compare: Sahlin, 1976). The early medieval farm or the region had to be able, above all, to be self-sufficient.

Even in the important trading centre of Haithabu (9th-mid 11th century, now situated in Schleswig,

Germany) the vegetable foodstuffs, apart from wine and walnuts, came from the immediate surroundings. In spite of trading activities the food supply was independent of this trade. This also applied to the *terp* settlement of Elisenhof (8th-11th century, situated on the river Eider, North Germany). According to Behre the supply of vegetable foodstuffs to settlements in the early Middle Ages was almost exclusively derived from home-grown crops produced in the immediate surroundings. Differences between settlements were caused more by differences in local surroundings than by differences in trading activities (Behre, 1984). The field weeds that were found by van Zeist in the samples from Dorestad (van Zeist, 1969) gave no indications of import from regions outside the immediate surroundings. Nevertheless Prummel does not exclude the possibility that Dorestad (8th-mid 9th century) imported grain and pulses, seeing that animal foodstuffs like marine fish and shellfish clearly were imported. Yet Dorestad could have been self-sufficient in terms of vegetable foodstuffs (Prummel, 1983). We may assume that the import of, for example, grain during the early Middle Ages occurred on a small scale, and that it merely served to supplement locally grown crops. This would have been the case not only because import over a long period must have been very expensive, but also because a great dependency on food import requires a regular supply of foodstuffs transported on a large scale, which would not have been possible with the production level and trading capacity of the Carolingian period.

This tendency towards self-sufficiency also applied to the animal products. The farmers themselves in Dorestad did not need any imported foodstuffs, but it is not known whether they were also able to feed the rest of the inhabitants. Some of the meat-providing animals may have been imported, but this is by no means certain. Some of the animal products that were used as raw material for industrial purposes must have been imported from elsewhere, although the local production of bone would have been sufficient. For industrial purposes too the need for self-sufficiency dictated the use of raw materials from the local environment as far as possible. In Dorestad some of the combs were made of bone because there was not enough horn available (Prummel, 1983). In the immediate surroundings of Haithabu antler was less scarce, and consequently the antler industry was more important there and combs were made out of antler (Ulbricht, 1979; Prummel, 1983; references to Reichstein, 1966; 1971; Schietzel, 1984). Yet in Schleswig, the successor of Haithabu, most of the combs were made out of bone. There may be a connection between this transition and a decline in the number of red deer (Reichstein according to Prummel, 1983).

The lack of information concerning the degree of self-sufficiency of Dorestad obviously influences the views held on the nature of the relations between Dorestad and its immediate surroundings. To link up with what has just been said, it can be assumed that Dorestad probably supplemented the supply of goat horns and skins required for industrial purposes by using locally available products. It is possible that also antler and wool were also obtained from elsewhere. As far as foodstuffs are concerned, whenever grain, pulses and meat-providing animals were brought into Dorestad from elsewhere, these would have come from the immediate surroundings (Prummel, 1983).

The degree of self-sufficiency would therefore have depended on the situation of the settlement and the region. The circumstances within the *terpen* region and the immediate hinterland would not have been the same everywhere, so it is probable that also economic possibilities differed within the region. This situation could have led to the distribution on a regional level of for example field crops and garden produce, stock farming products, fish, wood, peat, mosses and reeds, these all being exchanged within the region. The reclamation activities will have stimulated this regional market (Slicher van Bath, 1968; compare van Regteren Altena & Speet, 1982).

3.1.2. *The second level (between the regions)*

Self-sufficiency as regards everyday requirements was aimed at not only within the local unit, but also especially within the region. But just as with the individual units the production of the region as a whole was dependent on the local soil conditions and, along the coast, the influence of the sea. In periods of transgression the regional production in the Frisian coastal region will have been insufficient, and the import of certain goods will have been necessary. This trade in raw materials did not necessarily involve contacts with remote regions. At this second level trading consisted of the regular exchange of products of farming and of local industry between the inhabitants of neighbouring regions (Slicher van Bath, 1968).

Even in more tranquil periods no region will have been completely self-sufficient. Although a region may have been self-sufficient in terms of everyday requirements, there will always have been a demand for scarce or desirable raw materials or highly esteemed foodstuffs. In the Middle Ages the extraction of iron was an impetus for great activity at the second level (Heidinga, 1984). Some of the timber of Dorestad showed a characteristic growth pattern, this being regular and not too rapid. In view of the tree species represented, this suggests that the timber came from the higher sandy and loamy soils. The exact origin cannot be ascertained

(Casparie & Swarts, 1978; 1980), nor can it be said whether the timber came from the surrounding region. In Dorestad remains were found of marine fish and shellfish, that were probably imported from the North Sea coast. It is not impossible that these fish were first smoked or salted before being transported. The climate in the Netherlands was too warm and too moist to permit the drying of fish in the wind (Prummel, 1978). Around Haithabu both marine and freshwater fish could be caught, so it is more difficult to determine whether there was any trade in fish. It appears that herring was salted there. The surplus of the herring industry may have been traded elsewhere (Lepiksaar & Heinrich, 1977). Salt was produced in the coastal regions already before the Middle Ages. It served as a condiment or preservative. In the 9th and 10th century this salt production was so important that it is regarded as one of the factors underlying the origin of Staveren and Medemblik (Besteman, 1974a; 1974b; Brongers & Woltering, 1978; Halbertsma, 1982).

Some of the grain and timber that the inhabitants of Dorestad required may have been imported from the higher areas of sandy soil. It is not known how such contact was established and maintained. It is difficult to find out what the rights were of any particular settlement within a region, where the borders of the regions lay and, consequently, how accessible certain supplies were. It is possible that there was no need to exchange goods for goods, but that people had rights to certain goods. Dorestad was an exceptional settlement which was of great economic importance within the locality, and which must have been able to make demands on products from its immediate surroundings on the highest authority. In this respect Dorestad can hardly be compared to a modest settlement like Leeuwarden. It is to be expected that no individual settlement in the northern Netherlands was able to exercise many rights within its own region, let alone regions further away. Yet it is possible that each settlement had rights in marginal areas between or on the periphery of the regions. For determining the borders, views on the existence of so-called adaptation groups and nuclear regions are of importance (Waterbolk, 1979; Heidenga, 1986). It is conceivable that in Friesland too there were authorities that were able to demand products or to exchange them for services rendered. The transport of goods within a single, though scattered, region or the transport of goods as fulfilment of certain obligations towards higher authorities probably formed within the individual region or within the empire as a whole a traffic system that was connected with the trade in the article concerned, though it cannot simply be equated with it. Accordingly, reports on the obligations that depended on these payments cannot simply be regarded as direct information on special-

ization or surpluses that were of more general economic importance.

3.1.3. *The third level (over greater distances/international contacts)*

The third level was formed by the network of international trading contacts. Between 800 and 1200 the regions around the North Sea maintained contacts with one another in various ways. There are examples of cultural similarity. In this connection the concept of a North Sea culture has been mentioned (Slicher van Bath, 1949; van Buijtenen, 1953; Hallewas et al., 1975). It is self-evident that in such a situation the regular exchange of luxury goods took place on account of the desire to establish or maintain contacts. The turnover and the limits of international trade were very much dependent, however, on the quality or rather the prestige value of goods. Anthropological information suggests that this was the case, and that there was a relationship between trade and the political situation. I shall return to this topic in the following section.

The internationally traded products consisted for the most part of luxury goods. In the early Middle Ages Friesland lay on an internationally important trade route and relatively close to the production centres concentrated in the Middle Rhine and Maas regions. The situation of Friesland next to the North Sea brought it via Denmark into contact with the Baltic Sea trade. The historical and archaeological sources make it clear which goods would have been transported to or through Friesland. The commodities concerned included wine, walnuts, minted or unminted gold and silver, jewellery, glassware and pottery, and for a long time even slaves. Also worthy of mention are the *pallia*, the lengths of worsted cloth that are said to have been produced and exported by the Frisians (Slicher van Bath, 1968; Niermeyer, 1977a). In addition products made of bone and horn were traded, as well as objects made out of natural stone, like millstones, whetstones and later on sarcophagi. It is not clear to what extent foodstuffs or raw materials for industry were traded. There is no evidence that Dorestad imported antlers of red deer and elk from outside the Netherlands (Prummel, 1983). Some of the barrels that eventually provided the wood used for lining wells in Dorestad came from the Middle Rhine region. It cannot be ascertained whether the other wood that came from slow-growing trees had also been transported over a great distance. One would expect that over such distances wood would have been transported rather in the form of utensils and tools than as building material (Casparie & Swarts, 1980). Nor has it been demonstrated that Dorestad imported fish from a great distance, for example stockfish from Scandinavia, as no remains

have been found of gadoid fish (i.e. belonging to the cod family; Prummel, 1983). Nevertheless there are indications that also in the Carolingian period foodstuffs were transported over great distances. Thus it is known from written sources that in the 9th century fish from Norway was consumed in England (Wilson, 1976). The remains found in Haitabu of imported fish like large gadoid fish and halibut, however, are regarded by Lepiksaar and Heinrich as representing rather the supplies for the voyages of the traders, although they are of the opinion that trade in dried cod developed early on and that stockfish was an important commodity of the Vikings in the 11th and 12th century. Apparently also salted herrings were traded (Lepiksaar & Heinrich, 1977). Although Slicher van Bath mentions that the Frisians imported grain from Alsace, Niermeyer is more reserved: in his view this trading connection concerned only wine (van Buijtenen, 1953; Slicher van Bath, 1968; Niermeyer, 1977a). However important luxury goods remained, it is clear that from the 11th century on increasingly more bulk goods were traded internationally. Such bulk goods may well have included iron, wood, fish and grain, as mentioned above, and also the tuff stone that was used for building churches. This soft, light natural stone of volcanic origin came from Germany.

Summarizing the available information on trading activities, it can be said that:

1. The average settlement and the region aimed at self-sufficiency in terms of foodstuffs and industry.
2. Trading was carried out at three levels.
3. During the period between 800 and 1200 the turnover in commodities at the second and third level certainly increased, but the precise extent of this trade cannot be estimated.
4. Depending on the period attention should be devoted to the import and origin of (a) luxury goods such as wine, walnuts, minted or unminted gold and silver, jewellery, glassware, pottery, tuff stone and sarcophagi; (b) commodities such as slaves, millstones and whetstones, products made of bone or horn and other utensils, and (c) raw materials such as antler, wood and iron, and foodstuffs such as fish and grain. Exported goods could have included fish, salt, textiles and products of stock-breeding and industry.

3.2. History

3.2.1. *The first level (within the region)*

Around 1000 there were three distinctly different types of environment in the neighbourhood of Leeuwarden (fig. 2), namely the regions of sand, peat and marine clay. These regions differed in

terms of geography and soil composition. The peat areas, which are indicated on the map by dark shading, enclose the sandy areas to a large extent. The sandy areas closest to Leeuwarden are extremely narrow in some parts, and are relatively low-lying, i.e. they do not lie any higher than 1 m +NAP. Originally they may have been covered by peat. Little is known about the history of occupation of these parts in the early Middle Ages. They may have been occupied already in the 8th century, in which case they would only have been sparsely populated. It is not impossible that during the period when the sandy areas next to the clay region were still thinly populated the people living in the clay region considered these sandy areas as belonging to their territory. According to Edelman these lands would have been used by the *terp* dwellers primarily for agriculture before there was any kind of permanent occupation (Prins, 1981; references to Edelman, 1974). Only after the reclamation activities of the 10th and 11th century is the situation clearer. A few of the present-day villages were certainly present in the 11th and 12th centuries, as is testified by the churches of Roodkerk, Oudkerk, Oenkerk, Giekerk and Suawoude, which were founded during the Romanesque building period (fig. 3: 44, 45, 46, 47, 48 and 51) (Steensma, 1966; 1971; Halbertsma, 1968; 1969, 1976a; 1976b; 1977; 1978; van den Berg, 1970; van der Molen & Vogt, 1981). Somewhat further away from Leeuwarden, but still in Oostergo, the sandy areas lie on a higher level. Although some settlements existed possibly before 1000 AD, it is generally assumed that also in these areas general occupation started only after the 10th century (Spahr van der Hoek, 1961; 1976). During the Middle Ages large parts of these areas of sandy soil were covered by raised bogs.

The occupation of the sandy areas was probably directly related to the exploitation of peat areas. In peat areas the soil consists of peaty material which may be covered by a layer of clay up to 40 cm thick. It is possible that agriculture was practised on these peaty soils when they were still relatively high-lying. The Dunkirk IIIa transgression may have interrupted any reclamation activity that was in progress, but these parts were certainly being used again around 1000. The shrinkage caused by the reclamation resulted, however, in a lower soil level. These areas thus became more susceptible to flooding, and this situation was aggravated by the continual rising by accretion of the marine clay areas and the dikes. During the 12th and 13th century the peat area was no longer being used intensively; at most it was used as haylands by the inhabitants of the villages on the sandy soils (Spahr van der Hoek, 1961; 1976; Keuning, 1968; Waterbolk & Boersma, 1976; Prins, 1981; Stiboka, 1981).

In the brackish environment the relationship between agriculture and stock-breeding depended on the height and quality of the soil available, just as the raising of the settlement depended on the extent of the highest spring tides. During the post-Roman Dunkirk II transgression *knipklei* was deposited in the salt-marsh depressions, which sometimes extended over large areas of salt marsh. *Knipklei* is a heavy to very heavy, usually calcium-deficient clay which is very hard to work, and which must have been deposited in tranquil conditions, in view of these properties and the absence of any layering. The olive-green colour of the clay may be caused by an alternation of reduction and oxidation possibly connected with desiccation at regular intervals, presumably during the summer. The low-lying part of the area of *knipklei* and peaty soil, i.e. the salt-marsh depression, was probably flooded by brackish water during the winter (Griede, 1978). In figure 2 these areas of *knipklei* are left unshaded. During the Dunkirk IIIa transgression of the 9th and 10th century the salt-marsh depressions again became susceptible to flooding. Yet in the 11th and 12th century the *knipklei* areas were clearly in use again, as is evident from the presence there of many Romanesque churches (Steensma, 1966; 1971; van der Molen & Vogt, 1981).

Many villages, however, are situated in the middle of areas of lighter soil on a salt-marsh ridge. Also Leeuwarden lies on such a salt-marsh ridge. These areas of lighter clay are indicated by pale shading. This strip of clay was separated from the *knipklei* areas by a transition area, which is indicated by slightly darker shading. All of these different kinds of soil were of importance for farming. The salt-marsh ridge or *valge* provided the most suitable soils for agriculture. The transitional areas or *fennen* were mainly used for grazing, and the low-lying *knipklei* areas as meadowland for growing hay. These meadows (also known in Dutch as *meden* or *mieden*) were used communally. From the salt-marsh ridges there ran many hay-tracks, the so-called *miedwegen*, into the meadows, where they came to a dead end (Spahr van der Hoek, 1970; Stiboka 1981; Hacquebord, 1982). The opportunities for farming varied from village to village, and at the same time the possibilities for hunting and fishing varied too, in accordance with the changes in natural vegetation over a certain distance.

3.2.2. *The second and third level (between the regions and over greater distances/international contacts)*

Concerning the functioning of the Frisian economy at the second and third level very little historical information is available. On the basis of the presence or absence of certain raw materials it is

possible to draw tentative conclusions about the need for imported goods, although it is hardly possible to ascertain the origin of some of these products. In this connection the early medieval economic possibilities of the areas of sandy soil in Oostergo will require further study in the future. Because hardly any trees would have grown in the predominantly saline environment, the import of wood must have been necessary right from the start. Particularly the population increase and the technical developments from the 11th century on (for example concerning water management) would have resulted in an increased demand for wood. The origin of iron in Friesland is not clear, although at least some of it may well have come from the sands of Drenthe (Brongers & Woltering, 1978). It is not known which Frisians were meant in the above-mentioned Carolingian source concerning the selling of wine and grain from Alsace. In any case the *terp* dwellers were certainly concerned with the reports about the payments made to the monasteries that had rights in the northern Netherlands. In some cases payments were made in the form of lengths of cloth (van Buijtenen, 1953; Niermeyer, 1977a). In 13th-century historical sources from the northern Netherlands mention is made of imported grain (Wybrands, 1883; Slicher van Bath, 1968; Jansen, 1976), but it seems as though this was required to meet a temporary need. We may assume that during the early Middle Ages the import of such a product as grain took place on a limited scale, or that it was only of supplementary importance.

It has often been suggested that Leeuwarden had good contacts with other regions on account of its favourable situation as regards traffic routes. The accessibility of Leeuwarden for shipping changed in the 13th century because the Middelzee became silted up and was impoldered. Although this is often considered to have been disadvantageous for foreign trade with Leeuwarden, the passage of shipping via the canalized inland waterways remained possible.

Whatever expectations one may have, it must be concluded that it is impossible to ascertain the import and export trade of Leeuwarden on the basis of the historical sources. Thus it is not necessary to devote any further attention to the four questions.

3.3. Archaeology

3.3.1. *The first level (within the region)*

Of the products that could have been traded within the region, I shall first deal with reeds. Palaeobotanical research has shown that the surroundings of Leeuwarden were dominated by vegetations of halophytic plants. Nevertheless van Zeist is of the

opinion that along the Ee the nature of vegetation was determined to a great extent by fresh water. Upstream from the mouth of the Ee there would have been a gradual transition from predominantly brackish to fresh water. In the vegetations along the Ee reeds will have played an important and often dominant role (van Zeist et al., 1983). It is not known for certain to what extent the Ee actually contained fresh water before the dikes were built, but if fresh water was indeed present then it may be assumed that almost every settlement had access to such reed swamps, and that within the region there would have been not much trade in reeds.

In the samples from the medieval occupation layers of Leeuwarden remains of bog plants are also present. It is presumed that such remains came from blocks of peat that had been brought to the settlement from areas of peat bog lying further inland (van Zeist et al., 1983). In the Middle Ages peat was used as fuel. Also mosses were collected in the Middle Ages for various purposes, which may explain their presence in medieval Leeuwarden. In Leeuwarden also remains of raised-bog mites were found (Schelvis, 1988). This appears to confirm the relation between Leeuwarden and the peat-bog areas.

Concerning the wood, it is difficult to ascertain where this came from. It is likely that at least some of the wood in Leeuwarden came from the areas of sandy soil. Also the place of origin of the fish that ended up in Leeuwarden is obscure. In a 10th/11th-century sample Brinkhuizen recently found the remains of marine fish such as smelt, anchovy, herring, whiting, eel and flatfish, but he considers it

probable that the inhabitants of Leeuwarden caught these fish themselves in nearby coastal waters (Brinkhuizen, personal comment 1988; compare Brinkhuizen, 1983). Also concerning trade at a regional level in products of stock breeding nothing can be said as yet.

More information is available about trade in field crops and garden produce. As mentioned above, crop-raising and gardening were possible in the salt-marsh region, although outside the *terpen* only summer crops could be grown. If we disregard the fluctuations that occurred in space and time and focus our attention on the differences between the clay and sandy areas, then we see that the data available on the cultivation of rye play an important role in determining regional trade. The rye that was found in the medieval samples from Leeuwarden was grown in winter, according to van Zeist, who arrives at this conclusion on the basis of the presence of weeds characteristic of winter cultivation. During the winter it would hardly have been possible to grow rye on the salt marshes, and the species composition of the field weeds is indicative of the areas of sandy soil, so the rye must have been imported. Certain nuts and fruits must also have been imported from elsewhere, possibly from the areas of sandy soil and raised bogs of Oostergo itself (van Zeist et al., 1987). It is not impossible that some of the antler fragments found in Leeuwarden also came from these same areas of sandy soil.

3.3.2. The second and third level

From the excavations it is evident that trading was

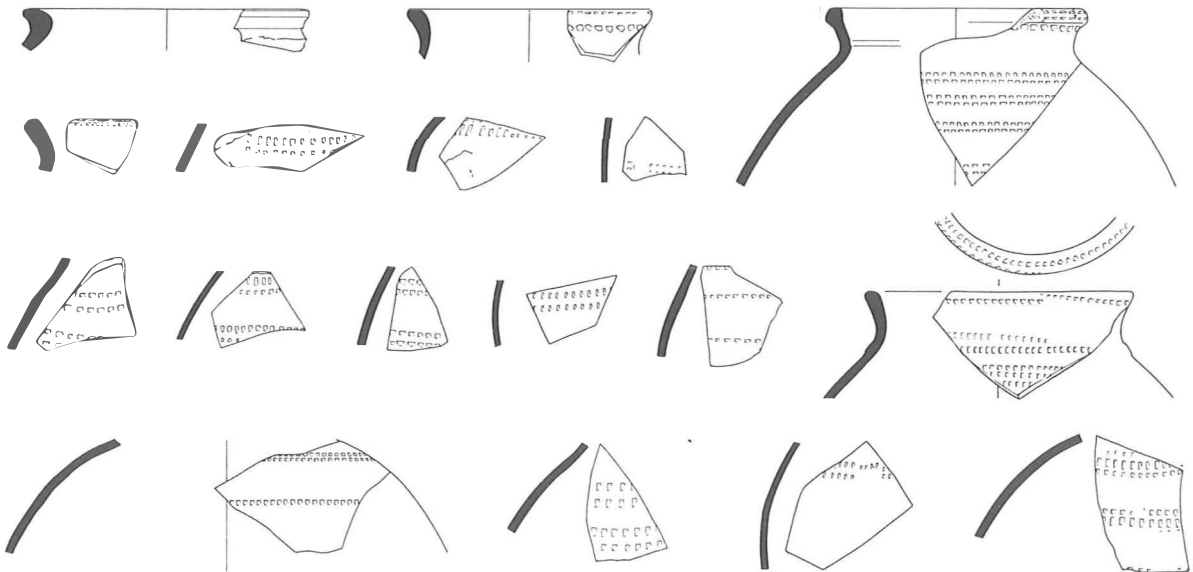


Fig. 7. Some of the fragments of Carolingian Badorf pottery found in Leeuwarden. Scale 1:4.

carried out not only with neighbouring regions; products were imported also from remotely situated production centres during the entire period studied here.

It can be demonstrated that the inhabitants of Leeuwarden bought products originating from the Middle Rhine region as early as in the Carolingian period. This is most clearly testified by the pot herds of Badorf ware (fig. 7). Also a bird shaped fibula and a coin-fibula are known from this period (Elzinga, 1982; 1984). In the oldest samples van Zeist found grain-field weeds which occur in fields of winter grain on calciferous soils in regions with warm summers. Van Zeist is of the opinion that these weeds probably came from Central Europe (van Zeist, 1987). Concerning the import of fish, for the oldest remains of gadoid fish it could not be ascertained whether these had been brought to the settlement in the form of stockfish (D.C. Brinkhuizen pers. comm. 1988).

During the 11th and 12th century pottery (fig. 8), tuff stone and millstones (fig. 9) were imported that came from the Middle Rhine region. The place of origin of the antlers and wood found during excavations is still unknown. The distribution of the coins of Leeuwarden around the Baltic is indicative of trade with at least Scandinavia/North Germany and possibly even the Baltic region itself (Albrecht, 1959), but the archaeological research in Leeuwarden has not revealed what products were paid for with this money. For the grain and fish the same applies as for the Carolingian period (van Zeist et al., 1987; Brinkhuizen, pers. comm.).

It can be established that:

1. It cannot be proved that Leeuwarden aimed at self-sufficiency, but it is clear that certain products must have been imported.

2. Leeuwarden traded at all three levels, or rather: the products that have been found in Leeuwarden were transported over short, medium-range and long distances, although the place of origin cannot be determined for each product.

3. Nothing can be said about the turnover.

4. The presence of most of the products is not surprising. The products are not exceptional, but the fact that grain was transported from Central Europe is remarkable. It is also difficult to estimate the intensity of this transport. It is possible that the transport of this grain is connected with the reclamation activities and the expansion of rye cultivation during this period.

4. THE STRUCTURE OF THE TRADE

4.1. Introduction

Although the growth of the turnover of trade was enormously important, it is likely that the origin of

towns during the 11th and 12th century was a result of a structural change in the pattern of trade. With regard to this topic it has become evident in recent years that medieval archaeology can greatly profit from the application of anthropological models. Such models can change our impression of medieval development, because they take into account economic relations and socio-cultural aspects. This approach is concerned not so much with ascertaining the geographical extent and intensity of trade, but rather with determining the underlying motivation for the exchange of goods in relation to the socio-cultural and political situation. Even general anthropological insights have turned out to be of value, for example our knowledge of the distinction between subsistence peasant and market peasant economies, and the possible adaptation of a community's needs in accordance with prevailing circumstances.

4.1.1. *Subsistence peasant economy (before the 10th century)*

Here a subsistence economy means an economy within which most of the goods are consumed by the community that produces them. The trading that goes on is not carried out without social and cultural ulterior motives. Thus trading does not occur without redistribution or reciprocity. This is not the place to give a detailed description of the complicated redistribution system, but briefly it can be said that this involved the collection of goods produced by a home-based economy and their distribution by the leading members of a hierarchy formed by family connections. By means of the principle of reciprocity – the creation of obligations by giving away or accepting goods – political relations and contacts were established or maintained. The reciprocity also played an important role in the interregional trade contacts. With this system of redistribution and reciprocity necessary raw materials were imported from the immediate surroundings and highly esteemed luxury goods from the regions further away, while at the same time political relations were continually being re-determined. Yet with subsistence peasant economies there is more room for specialization and local markets than with the average subsistence economy. With such peasant economies it is even possible that local distribution occurs in the form of independent markets in rurally situated places (Kloos, 1976; Sahlin, 1976; van Es, 1980; Hodges, 1982).

In the Merovingian period trade over long or medium-range distances did not function via free markets. At the first level, thus within the circle of the home community where everyone was well acquainted, local markets operated relatively independently, but at the second level trade was not

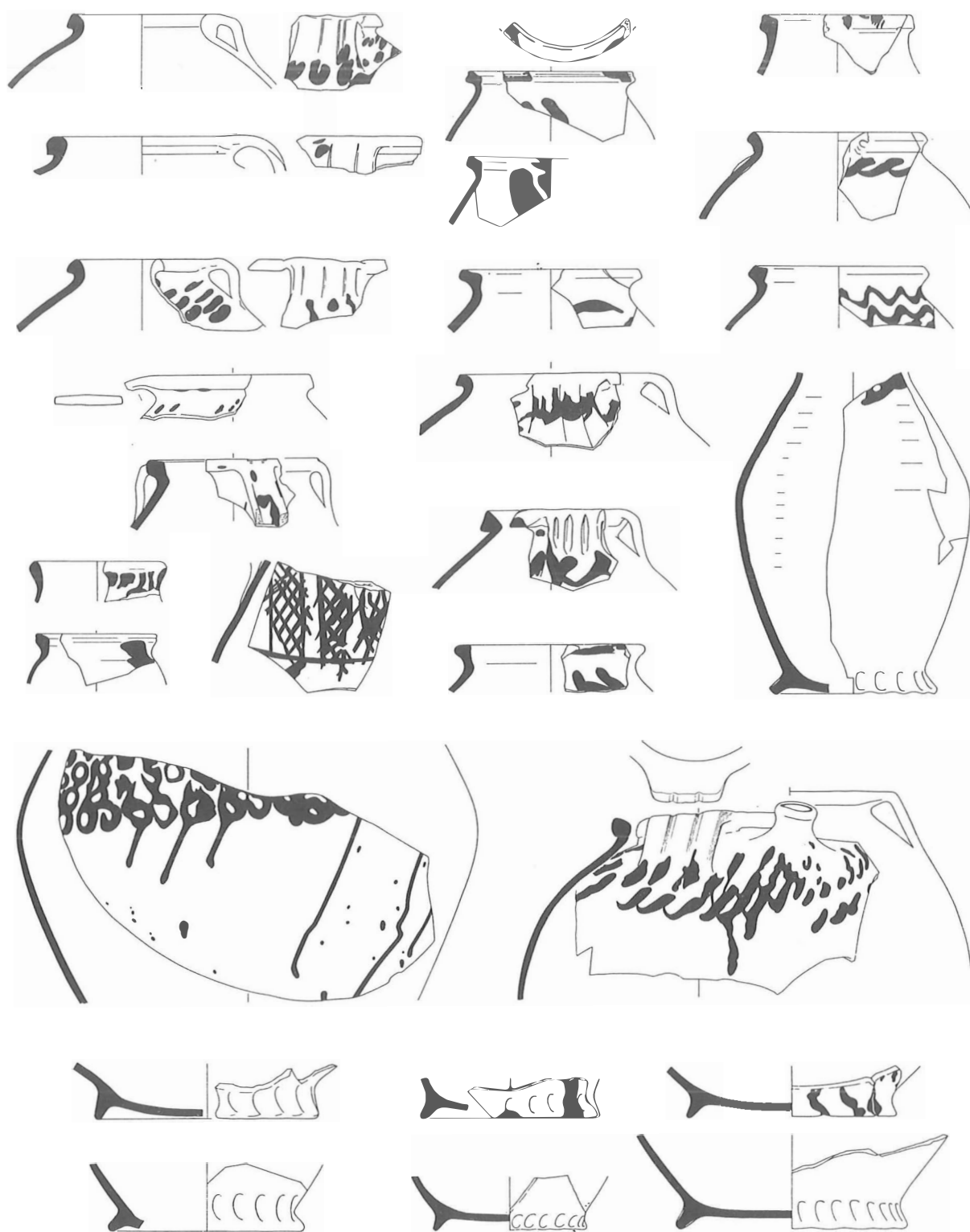


Fig. 8. Some of the fragments of 11th- and 12th-century Pingsdorf pottery found in Leeuwarden. Scale 1:4.

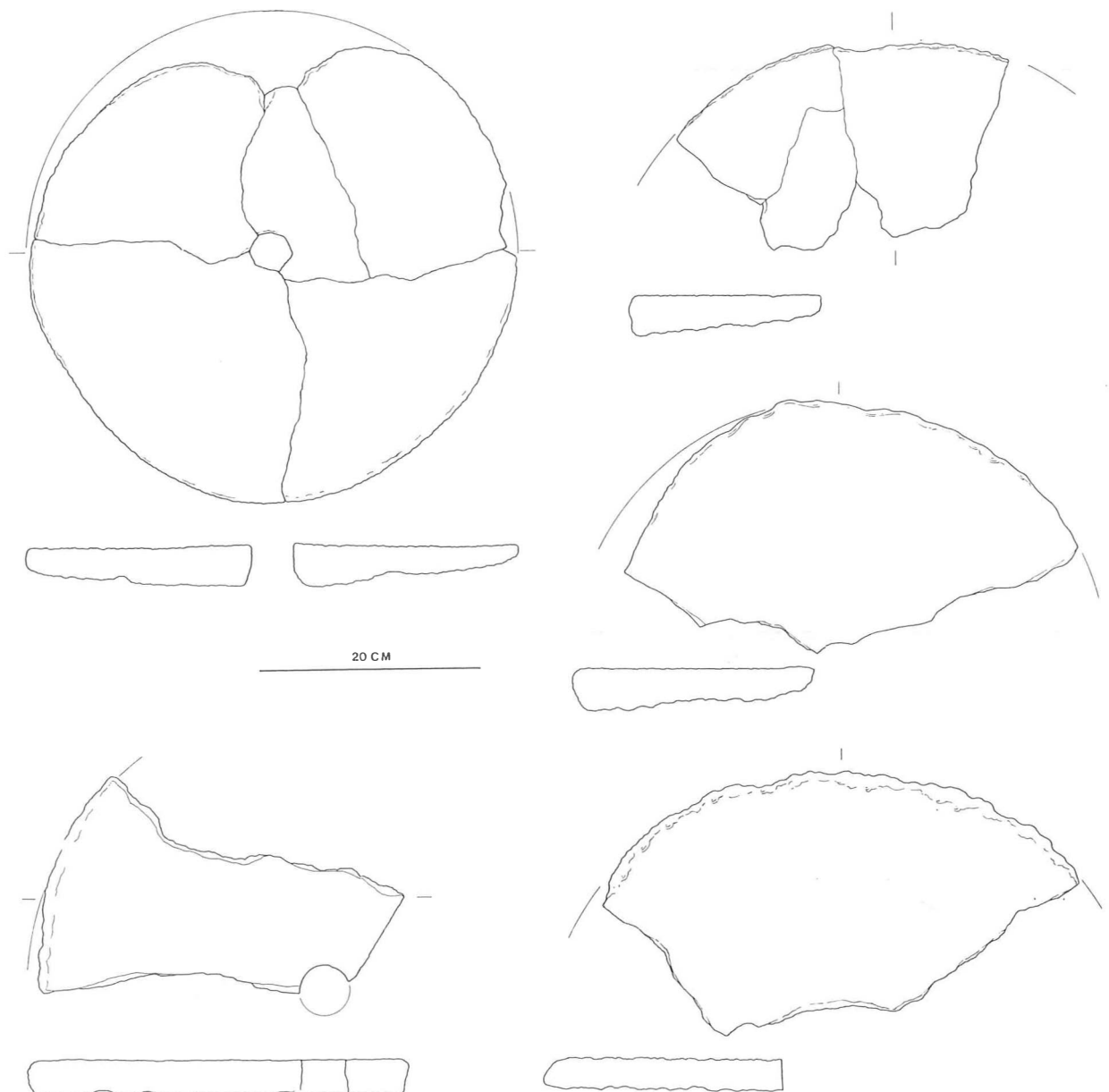


Fig. 9. Some of the fragments of millstones found in Leeuwarden.

independent. This trading occurred mainly according to regional distribution systems which functioned alongside and above the local market and which were determined by redistribution and reciprocity. In the early Middle Ages the economies of the lands around the North Sea still had the structure of a subsistence peasant economy. Depending on the level of economic contact, this system of the redistribution of goods presumably became superseded in northern Europe in the 10th century, also at the second and third level, by the modern system of trade via the free market. This process can be described as a transition from a

subsistence peasant economy to a market peasant economy (van Es, 1980; Hodges, 1982, compare: Jankuhn 1980; 1984).

4.1.2. *Market peasant economy (after the 10th century)*

A market economy is an economy in which most of the distribution is not determined primarily by social contacts, but in which the distribution of goods is prompted mostly by supply and demand and no longer by socio-cultural values with political motives. Yet market peasant economies do not

produce goods chiefly for the market, as is the case with clear-cut market economies. Market trade involves the exchange of available goods between individual sellers and individual buyers at fixed places and at agreed times. The innovation consists of the rise of urban centres that are able to trade fairly independently, not only locally but also at a supraregional level. This does not mean that at the time of the market no control has to be exercised by the authorities. On the contrary: the authorities actually protect the market and its visitors. Especially with international contact political agreements remain necessary between the ruling powers of the various parties. Market trade does mean that the initiative lies with the traders and that the authorities no longer redistribute all goods imported by a community. The redistribution is now effected by the traders who have become more independent in their enterprise, and who are of course obliged to pay taxes and to abide by the law. When the ruling authorities are able to protect freedom, justice and exchange rates, then the greater freedom of trading can bring about a higher turnover (Kloos, 1976; van Es, 1980; Hodges, 1982; Jankuhn, 1977; 1980; 1984).

During the period discussed here import and export did not occur only via markets. As a result of tax obligations to churches, monasteries and secular lords payments took place, not only in money but also in kind. In addition relationships existed between landed properties and centres of authority, which were expressed in the exchange of goods. Although it is likely that such obligations were integrated in the redistribution of the subsistence peasant economy, after the transition to the market peasant economy it formed a separate system.

To summarize, it can be concluded that:

1. The active participation in medieval trade (the clay areas will have been sought out also by foreign traders) will have been incidental and scattered before 1000 AD.
2. This trade could have started without native trading centres.
3. Before 1000 AD local markets could nevertheless have existed already.
4. The limits and probably also the extent of the import do not indicate the level of development of the native economy and thus not the role of the later centres either.
5. The presumed 10th- or 11th-century innovation may be expressed in the rise of a few (free) markets.
6. This change occurs in association with the authorities.
7. Through the agency of these authorities between 800 and 1200 AD the exchange of goods took place also outside the markets.

Thus the following lines of research should be followed up: (1) Leeuwarden must be compared with other settlements in Oostergo, and (2) the role of the authorities in the trading activities should be studied.

4.2. History

The situation of Friesland on the fringe of the Carolingian (later Holy Roman) empire though close to the German production centres, thus a situation on a political and economic borderline, could explain the Frisian participation in trade in different ways. The exceptional position that Friesland had on account of its peripheral location may well have been a stimulus to engage in trade.

It is not yet known how the trade was structured either before or after 1000 AD. Passive trading may have taken place, or there may have been direct trading between intermediaries, or active trading over greater distances. The industrial production of pottery in the Rhine and Maas regions could only have been maintained if some of the items of pottery produced were exported to destinations outside the home region (Janssen, 1983). It is possible that the exported pottery was sent to Friesland within the framework of a sales policy well thought out beforehand by the producers, in which case the initiative would not have been taken by the Frisians. For the producers it was probably sufficient to supply the goods to the trade centres of the Central Netherlands. Thus the Frisians of the northern Netherlands did not have to fetch the products from the Rhine and Maas regions themselves, as much would have been available in staple towns like Deventer and Utrecht.

Concerning the role of both the Frisian and the Frankish authorities with regard to Frisian trade between 800 and 1000 almost nothing is known. This is unfortunate, because precisely on the basis of their influence it would be possible to determine the structure of the trade. If one assumes that cultural similarities existed between the various regions around the North Sea, then the theories discussed above are also of importance for Frisian history. The transition from a subsistence to a market economy, which is supposed to have occurred in the 10th century, can therefore also be assumed for Friesland, possibly with a slight time-lag. By comparison with similar situations it can be expected that before Friesland became included in the Frankish empire also the inhabitants of Friesland received goods from the Frankish territories, partly for reciprocative reasons. If one envisages the Frisian leaders of the 7th century as leaders who had to ward off the Frankish pressure, then redistribution and reciprocity are to be expected. The situation of Friesland on the periphery of the Frankish

empire and the influence of the Vikings may possibly have been responsible for a certain degree of freedom with regard to the ruling authorities. This independence with regard to the Frankish magnates could have permitted market trade over greater distances, if this freedom had not ultimately been relative. For although the Frisians could have been accustomed to having more freedom in their own territory, everywhere else they behaved according to redistributive and reciprocative demands and practices. And if the Frisian nobles did not engage in trade themselves, without their permission trade would not have been possible. Every merchant would have had to be able to identify himself as the representative of a political power. Thus also among the Frisians the trade between the regions was certainly controlled to some extent from the social top level, with kinship relations and political contacts being important factors, while also the import and export over greater distances had to take place via the social élite. Thus in terms of structure the early Frisian trade cannot have differed very much from trade carried on elsewhere. The complete transition from a subsistence peasant economy to a market peasant economy probably occurred very gradually in Friesland, because the authorities that were responsible for prompting this innovation elsewhere had insufficient power in Friesland.

There is more certainty about the 11th century, when the counts of Brunswick, also known as the *Brunonen*, received some of the Frisian territories in fief from the German king. In accordance with developments elsewhere, these counts, who incidentally were up to their ears in politics and who risked a great deal with their ambitions, tried to stimulate markets also in their newly acquired lands, with the aim of gaining more profit from them. Juridically they were able to do this, as they were in control of the market rights and tollage for various places. On of these places was Leeuwarden (Dirks, 1844; 1846a; 1846b; 1853; Wigersma, 1906; 1907; Gosses, 1909; Scholten, 1939; Albrecht, 1959; Puister, 1960; 1968; Enno van Gelder, 1965; 1982; Slicher van Bath, 1968; Formsma, 1976; Schuur, 1979; Halbertsma, 1982). Although this mintage is usually regarded as evidence of an important market function (Boeles, 1951; Halbertsma, 1956; 1970; van Buijtenen, 1976; Schuur, 1979; Uytven, 1982; van Es et al., 1982), no other information is available concerning this. Nor is it known whether the places already had a market function before the mintage rights were granted. The silver money that the *Brunonen* had minted was certainly necessary because traders from the Baltic Sea region asked for it. This outward flow of silver has been demonstrated with the aid of archaeological sources (Slicher van Bath, 1968). Although the *Brunonen* did

not keep their power in Friesland, most of their markets continued to function, including Leeuwarden.

With the establishment of a mendicant order Leeuwarden joined the company of other urban centres, including Bolsward, Winsum, Groningen and Emden. Opposite this monastery, on the old *terp*, there still stood the parish church of Nijehove. The dating of these two buildings has already been discussed above.

The following conclusions can now be drawn:

1. On the basis of historical data it is possible to ascertain a difference between Leeuwarden and other settlements in Oostergo for the period after 1000 AD at the earliest. Leeuwarden and Dokkum have a distinct status with respect to the other places in Oostergo inasmuch as coins were minted in or for both of these places. In view of the historical data it is likely that Leeuwarden was a trading settlement in the 11th and 12th century.

2. The rise of these markets may be connected with the innovation that probably occurred in Friesland in the 11th century. It is probable that before 1000 AD a subsistence peasant economy existed, but this cannot be proved.

4.3. Archaeology

It is difficult to demonstrate a market function with the aid of archaeological research. The imported pottery that has been found is only suggestive of direct contacts with regions outside Friesland. Considering the limited surface area of the excavation trenches a reasonably large quantity of imported pottery has been found, but caution is necessary to avoid drawing premature conclusions. In assessing the quantity of imported pottery it is advisable to regard this in relation to the quantity of locally made pottery, for in the average village too one finds imported pottery (compare: van Regteren Altena & Speet, 1982). Even in the low and small *terpen* in the low and wet pasture area imported products are found. The data from a settlement thus have to be compared with similar data from other *terpen*. A larger quantity of imported pottery in comparison with other *terpen* would then be an indication of a greater share in trade. One would then have to assume that the (intermediate) trader was responsible for breaking more imported items of pottery than the average customer. It is clear that for such an estimation a single excavation is not sufficient, and that the estimation will not be simple. In the first place the products are retrieved only in a very fragmentary state, which may give a distorted picture, although this will apply to both the imported and the locally made products. A distortion certainly cannot be excluded if the excavated terrain lay in an unimportant part of the

settlement. Consequently for larger settlements it is necessary to take a number of random samples. The identification of weeds originating from Central Europe remains too isolated an observation. It will be necessary to investigate to what extent they occur in other large settlements situated along the coast. At this stage of the research it is therefore impossible to make any definite statements about the structure of the trade on the basis of the archaeological data.

5. CONCLUSIONS

The study of the role played by Leeuwarden in trade can be divided into three problems, each of which require a general theoretical approach, a historical approach and an archaeological approach. The three problems are:

5.1. The structure of the settlement

Concerning the structure of Leeuwarden it could only be ascertained that in the Carolingian period Leeuwarden underwent a distinct growth. The occupation was no longer limited to the *Oldehove terp*, but also extended along the banks of the Ee. Nothing more can be said about this early phase. This growth continued in the 11th and 12th century. At that time Leeuwarden consisted of an older occupation nucleus with the oldest church and two new, elongated *terpen* alongside the river Ee. On the basis of historical information it can be assumed that at the end of the 12th century or possibly at the beginning of the 13th century the settlement acquired a second church, and that in the 13th century Dominicans settled in Leeuwarden. The latter assumption has been confirmed by archaeological research. It can be assumed that in the 11th and 12th century Leeuwarden was not an ordinary agrarian settlement. At the same time it could not be ascertained whether Leeuwarden was a street village.

5.2. Limits and extent of the trade

In the settlement products have been found that are indicative of contacts with areas of sandy and peaty soils, probably those of Oostergo itself, with other regions and with the Middle Rhine region. This applies to the Carolingian period and also to the 11th and 12th century. The distribution of the 11th-century coins of Leeuwarden indicates at least indirect contacts with the Baltic Sea region. Such contact cannot be demonstrated for the Carolingian period. In comparison with developments elsewhere and in view of the growth of the settlement it is probable that the trading activities of Leeuwarden

increased in the second half of the period discussed here.

5.3. The structure of the trade

It is not yet possible to ascertain the nature of these contacts. As far as the Carolingian period is concerned we are still completely in the dark. Also the 11th-century historical sources do not give any evidence of the transition from a subsistence peasant economy to a market peasant economy that has been presumed on the basis of information obtained elsewhere. And to be honest the archaeological material does not even arouse any suspicions in this direction. The action of ruling authorities as stimulators of this trend does fit within the general developments, but the value of the 11th-century mintage is difficult to determine if we consider the role of Leeuwarden as a market town. The contacts that have been demonstrated were not necessarily direct ones. It is even possible that many products were bought at the nearest staple towns.

The fact that it has not been possible to solve any of the three problems does not mean that this research has not provided any results. The division into these three problems has provided the opportunity to test old data anew and to pose different questions in the study of new archaeological material. The separate treatment of the theoretical aspects has led to a greater distinction becoming apparent between probabilities and facts, while at the same time the gaps in our present knowledge have become all the more conspicuous. New archaeological research will have to be undertaken in Leeuwarden. Yet it is necessary above all to compare Leeuwarden with other settlements of Oostergo, and here I am thinking of the larger villages on the coast. Only when such villages have been investigated will it perhaps be possible to determine whether Leeuwarden was an exceptional settlement also before the 11th century.

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