Blok

Berichten van de Rijksdienst voor het Oudheidkundig Bodemonderzoek

Jaargang 15–16, 1965–1966

BERICHTEN VAN DE RIJKSDIENST VOOR HET

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ROB

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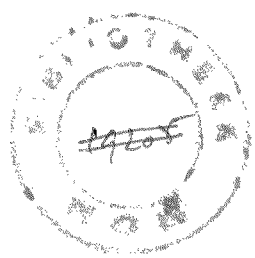

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De periodisering van de Nederlandse prehistorie

Tijdens de achtste zitting van het *Symposium voor Praehistorie van Nederland*,[1] gehouden te Amersfoort op 9 en 10 december 1965, zijn de leden van dit symposium het eens geworden over een periodisering van de prehistorie van Nederland, die kan dienen als gemeenschappelijke werkbasis en als referentieschema voor prehistorici en beoefenaren van aanverwante takken van wetenschap. Men was het er over eens dat aan een dergelijke algemeen aanvaarde periodisering grote behoefte bestaat, gezien de welhaast Babylonische spraakverwarring die op dit punt in ons land bestaat.

De periodisering heeft zich beperkt tot een tijdvak beginnende met het Neolithicum en eindigende met de Romeinse Tijd. Voor het zo algemeen verbreide Paleolithicum bestaat aan een aparte indeling voor ons land geen behoefte; voor het Mesolithicum was het thans niet mogelijk een indeling op te stellen.

De periodisering heeft zijn hier gepresenteerde vorm gekregen na discussies gebaseerd op concept-indelingen voor de verschillende perioden, en wel voor het Neolithicum van J.A. Bakker, P.J.R. Modderman, J.F. van Regteren Altena en J.D. van der Waals; voor de Bronstijd van J.J. Butler en W. Glasbergen; voor de IJzertijd van P.J.R. Modderman en H.T. Waterbolk, en voor de Romeinse Tijd van W.A. van Es, J.F. van Regteren Altena en J.A. Trimpe Burger.

Bij het opstellen hebben de volgende overwegingen voorgestaan:

a Daar het schema moet dienen als algemeen aanvaarde gemeenschappelijke werkbasis en als referentieschema mag de periodisering niet verder worden doorgevoerd dan voor zover zij op feitelijke gegevens berust; het mag bepaald niet het karakter van werkhypothese hebben. Zoveel mogelijk dient vermeden te worden dat het schema later ingrijpende wijzigingen moet ondergaan. Het is echter altijd mogelijk dat nieuwe gegevens tot een verfijning (onderindeling) zullen leiden; zo valt b.v. te voorzien dat, naarmate onze kennis omtrent de chronologische positie van de Rössener cultuur groeit, behoefte zal ontstaan aan een onderverdeling van het Vroege Neolithicum.

b Als gebied waarvoor de indeling geldt is in de eerste plaats gedacht aan Nederland. Men kan echter wel stellen dat het in het algemeen geldigheid heeft voor het gehele Beneden-Rijngebied (men vergelijke de definitie van Waterbolk 1962b, 227-8).

c Overtuigende inpasbaarheid van zoveel mogelijk cultuurverschijnselen in eigen omgeving heeft prioriteit boven maximale aanpassing van deze indeling aan voor elders opgestelde schema's; ook was het niet de bedoeling dat in theoretisch-cultuurhistorische zin fasen in de ontwikkelingsgeschiedenis tot uitdrukking gebracht zouden worden.

d Bij de bepaling der grenzen tussen de perioden is vooral rekening gehouden met het eerste optreden van nieuwe cultuurverschijnselen, omdat dit eerste optreden in het algemeen duidelijker definieerbaar is in gebieden met grotere uitgestrektheid dan het einde van bestaande tradities en culturen.

Besloten werd uniformiteit te betrachten bij het afkorten van de namen van perioden en culturen, en wel door middel van hoofdletters zonder punten (doorgaans eerste letters van lettergrepen).

[1] Aanwezig waren de volgende leden: drs. J.A. Bakker, G. Beex, prof. dr. H. Brunsting, A. Bruijn, dr. J.J. Butler, mej. drs. A.T. Clason, drs. W.A. van Es, prof. dr. A.E. van Giffen, prof. dr. W. Glasbergen, mevr. drs. W. Groenman-van Waateringe, dr. C.C.W.J. Hijszeler, prof. dr. P.J.R. Modderman, drs. J.F. van Regteren Altena, ir. J.A. Trimpe Burger, drs. G.J. Verwers, dr. J.D. van der Waals, prof. dr. H.T. Waterbolk en A.M. Wouters.

NEOLITHICUM

periode	definitie	cultuurverschijnselen
VN Vroeg-Neolithicum	Het VN vangt aan met de *Linearbandkeramik.*	BK; (Rössenercultuur)
MN Midden-Neolithicum	Het MN vangt aan in Noord- en Midden-Nederland met het eerste optreden van de TRB (pre-megalithische = pre-Drouwen fase; Van Giffen / Glasbergen 1964) en, eventueel, in Zuid-Nederland met de Michelsberg-cultuur.	(staart Rössenercultuur?); TRB; (Michelsberg-cultuur); (begin VL?)
LN Laat-Neolithicum	Het LN begint met de eerste verschijnselen van de SVB; dit begin valt in het Westnederlandse kustgebied samen met de eerste bewoning op de Calais IV afzettingen (Brand e.a. 1965, 380, Tab. 3).	staart TRB; VL; SVB; KB; menggroepen van SVB en KB; (enggewonden WKD?)

Voor de verhouding van deze indeling tot de indelingen die door Becker (1961, fig. 78) voor Zuid-Scandinavië is gegeven en door Driehaus (1960) voor Midden-Europa, verwijzen wij naar het schema, fig. 1.

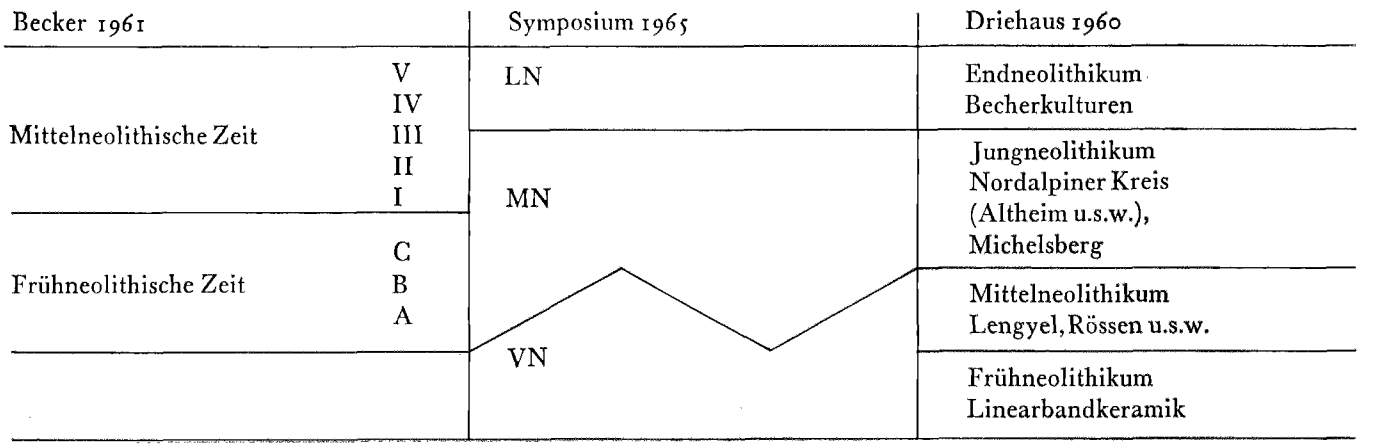

Fig. 1

Afkortingen

BK	Bandkeramische cultuur (*Palaeohistoria* 6–7, 1958–9)	SVB	Standvoetbekercultuur (Van der Waals 1964; Van der Waals / Glasbergen 1955; 1959)
TRB	Trechterbekercultuur (Bakker 1962; Van Giffen / Glasbergen 1964; Van der Waals 1964)	KB	Klokbekercultuur (Van der Waals 1964; Van der Waals / Glasbergen 1955; 1959)
VL	Vlaardingen-cultuur (Van Regteren Altena e.a. 1962–3)	WKD	Wikkeldraadstempelkeramiek (Modderman 1955)

BRONSTIJD

periode	definitie	cultuurverschijnselen
VB Vroege Bronstijd	De VB vangt aan met de bronsindustrie van Ierse herkomst en met de industrie van de Emmenbijlen (Butler 1963, 43; Butler / Van der Waals 1966).	(staart Veluwse KB?); structuurloze grafheuvels met graven op bodemniveau en wijdgewonden WKD, type Ohlenburg-Gasteren (resp. Schwantes 1958, 336 en Van Giffen 1941, afb. 32): *Stacheldraht;* HVS; Sögel-Wohlde-complex (Hachmann 1957)
MB Midden-Bronstijd	De MB vangt in Noord-Nederland aan met ELP.	DKS in Zuid-, West- en Midden-Nederland; ELP in Noord-, Oost- en Midden-Nederland
LB Late Bronstijd	De LB vangt in Noord- en Oost-Nederland aan met het optreden van de *zweihenklige Terrine,* de dubbelconische urn, en daarmee geassocieerde grafvormen (Waterbolk 1962a; 1964); in Zuid-Nederland met het optreden van *UFK*-invloeden, de Nederrijnse *Kerbschnittkeramik* (Kersten 1948) en lange bedden van de typen Goirle en Riethoven (Verwers 1966).	(staart DKS?), urnennecropolen met *UFK*-elementen (*Niederrheinische Grabhügelkultur* volgens Kersten 1948) in Zuid-Nederland; staart ELP?, urnennecropolen in Noord- en Oost-Nederland (Waterbolk 1962a; 1964)

Afkortingen

WKD	wikkeldraadstempelkeramiek (Modderman 1955)	ELP	Elp-cultuur (voorstel H.T. Waterbolk en J.J. Butler bij dit symposium; vgl. Waterbolk 1964)
HVS	Hilversum-cultuur (Hawkes / Glasbergen 1953; Glasbergen 1954)	*UFK*	*Urnenfelderkultuur* (vgl. Verwers 1966: Introduction).
DKS	Drakenstein-fase (Glasbergen 1954)		

IJZERTIJD

	definitie
IJZ	De IJzertijd vangt in Noord-Nederland aan met het optreden van Harpstedter urnen en gladwandige urnen of Laufelder type (Waterbolk 1962a), in Zuid-Nederland met de Vorstengraven van Oss (Modderman 1964) en Wychen (De Laet / Glasbergen 1959, 162) en urnen van Laufelder type (Kersten 1948).

Commentaar

Voor een nadere indeling van de IJzertijd zijn geen algemeen geldende criteria voor Nederland aan te wijzen. Van een gebruik van termen als vroeg, midden en laat wordt voorlopig afgezien. In het noorden van het land is de IJzertijd in te delen in vier fasen, zoals door Waterbolk (1962a) is uitgewerkt. In het zuiden is nog geen indeling mogelijk. Wel kan daar gewezen worden op een invloed van de Marne-cultuur (vgl. Dehn 1950).

ROMEINSE TIJD

De indeling geldt voorlopig alleen voor het 'Nederlandse' deel van het Vrije Germanië, d.w.z. Nederland ten noorden van de Rijn.

periode	definitie	cultuurverschijnselen
VRT Vroeg-Romeinse Tijd	De VRT vangt aan met het optreden van de eerste Romeinse invloeden.	Romeinse muntvondsten Noord-Nederland perioden I en II (Van Es 1960); Wijster periode I (Van Es 1967)
LRT Laat-Romeinse Tijd	De LRT vangt aan bij de verstoring van het evenwicht van krachten binnen en buiten het noordwestelijke deel van het Romeinse Rijk omstreeks 200 n. Chr. Het einde van de LRT wordt aangegeven door de Volksverhuizingen, met name de Angelsaksische migratie.	Romeinse muntvondsten Noord-Nederland perioden III–VI (Van Es 1960); Wijster perioden II en III (Van Es 1967)

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FRISIA BEFORE 1100 A.D.

The following three articles by H.T. Waterbolk, W.A. van Es and H. Halbertsma will, with slight changes, be incorporated in due course in a book about the history of Friesland to be published by the *Fryske Akademy* at Leeuwarden. The authors survey the Prae- and Protohistory of Friesland in the light of recent discoveries and thus their articles may be regarded as a follow up of Boeles's famous book *Friesland tot de elfde eeuw* (2nd ed., 's-Gravenhage 1951).

H. T. WATERBOLK

The Occupation of Friesland in the Prehistoric Period

INTRODUCTION

The archeological finds in Friesland indicate an occupation dating back to about 13000 B.C. This chapter will deal only with the finds from pre-Roman times.

In speaking of a Frisian pre-history, we refer specifically to the period beginning approximately in 500 B.C. At that time the coastal region between the estuaries of the Rhine and the Ems was permanently settled by people who could be distinguished from their neighbours by their mode of life which was adapted to the salt-marshy terrain and by the particular shapes and decoration of their domestic pottery. They were undoubtedly the ancestors of the Frisian people, as these have been described by the Roman writers.

The earlier occupation of Friesland has to be seen in geographical contexts that widen the farther back we go: the region between the Vecht and the Ems, the Lower-Rhine lowland plain, or even the entire area of the great North-German lowland plain.

In assessing the archeology of Friesland, the fitness of the region for human habitation plays an important role. In the Ice Age, when the sea-level was very low, the climate was the limiting factor. Occupation, if only in the summer, began in the late-glacial period when climatic improvement permitted a richer flora and fauna to flourish on the tundra than had been possible in the very cold pleni-glacial period (Upper Paleolithic). In the early post-glacial the sea-level remained very low (–20 m). Extensive occupation was then possible (Mesolithic). In the course of the post-glacial period, however, the rise in sea-level made its influence felt. As a result of the flooding of low-lying land and raised bog forming on higher ground, there was little space left suitable for inhabitation (Neolithic and Bronze Age). Only when the sea-level rise slowed down and was overtaken, as it were, by silt-accretion was large-scale occupation possible, but this time it was on the salt-marshes and river-banks (Iron Age). The sand regions of Friesland remained practically uninhabited until the situation altered in historic times with the drainage and reclamation of the raised bogs. According to this sequence of events the prehistoric occupation of Friesland can be classified as follows:

1 Upper-Paleolithic (c. 13000–8000 B.C.)
2 Mesolithic (c. 8000–4000 B.C.)
3 Neolithic and Bronze Age (c. 4000–600 B.C.)
4 Iron Age (c. 600–c. 0)

These periods will be discussed in turn[1].

Upper-Paleolithic (13000–8000 B.C.)

Apart perhaps from the Middle-Paleolithic hand-axe from Wijnjeterp and a probably equally old flint scraper from

1 The author wishes to express his thanks for help of many kinds received from his colleagues and fellow-workers at the Biological-Archeological Institute, University of Groningen. The Fries Museum (Mr. G. Elzinga) and the Groningen Museum (Mr. O.H. Harsema) collaborated in mapping the archeological finds in Friesland and the Westerkwartier, Groningen.

Much of the data contained in this survey has been taken from P.C.J.A. Boeles's basic work *Friesland tot de elfde eeuw*, 2nd ed., 's-Gravenhage 1951. Frequent use has also been made of the following publications: J. Siebinga, Overzicht van de voorgeschiedenis van de gemeente Smallingerland, in: *Smellingera-Land*, Drachten 1944; H. Halbertsma, *Terpen tussen Vlie en Eems*, Groningen 1963; G. Elzinga, *Fynsten út Fryske groun*, Leeuwarden 1964; S.J. de Laet / W. Glasbergen, *Voorgeschiedenis der Lage Landen*, Groningen 1959; the detailed reports in the *Opgravingsnieuws* (Excavation News) column of the *Nieuwsbulletin van de Koninklijke Nederlandse Oudheidkundige Bond*, mainly those contributed by G. Elzinga, and the reviews in the journal *Helinium*, in particular those concerning District A by W.A. van Es.

Ureterp which will not be discussed here[2], pre-historic occupation of Friesland begins with the *Hamburg* culture. The large site on the Prinsendobbe near Ureterp[3], excavated by Bohmers in 1943, and several other sites such as Appelscha, Bakkeveen, Houtigehage, Makkinga, Oostermeer, Suameer, Duurswoude, all belong to this culture. Sites have also been discovered in Drenthe, *e.g.* Gasselte, Havelte-Holtingerzand, Havelte-Westerzand, Vledder, and in the western part of the province of Groningen (Marum).

Apart from those found in the North Netherlands, a cluster of sites is concentrated in the country around Hamburg, with the classical settlements of Meiendorf and Stellmoor in particular. The flint implements were found here on the shores of what were previously lakes. Bones of big game were found in the lake deposits. Thanks to pollen research, much more is known about the environment and mode of life of the people of the Hamburg culture than of many later ones[4].

Except perhaps for the occasional birch and aspen tree in sheltered places, the landscape was not wooded. However, the flora was luxuriant, with many varieties of low shrubs and herbs. Betula nana, Hippophae, Empetrum, Salix polaris, Juniperus, Armeria, Sanguisorba officinalis, S. minor, Helianthemum, Centaurea cyanus, Plantago sp. and many other plants, all grew in the late-glacial period.

This was an environment favourable to all sorts of wild animals. One can imagine herds of wild horses and reindeer, mountain hare, lemmings, beasts of prey such as foxes, wolverines, birds such as swans, geese, duck, cranes and gulls, on and around the swamps and moorlands. With the melting of the *pingos* (frost mounds) in the late-glacial period, many *dobben* came into existence; these round depressions, sometimes very deep and surrounded by a low wall, occur very frequently in the Frisian sand regions[5].

The people of the Hamburg culture lived mainly from the reindeer: the meat formed their staple diet, the brains and the marrow from the bones were probably regarded as a delicacy, hides were made into clothes, antlers were the raw material from which they made harpoons and needles, which were worked into shape with flint implements.

It is not surprising therefore to find the reindeer chosen as the sacrificial animal. At Meiendorf and Stellmoor complete skeletons with a big stone in the thorax were found in the waste deposits.

According to Bohmers[6], the measurements and proportions of certain implements indicate that there is a connection between the Hamburgian and French Magdalenian cultures. Some naturalistic engravings found on amber and sandstone also point in this direction.

The antler development and the presence of summer migratory birds such as cranes, geese, and duck, among other wild life, indicate an occupation during the summer months. It has been thought that the concentration of sites in the North Netherlands consisted of winter quarters, but it is doubtful whether the variation in seasonal temperatures was great enough. Perhaps the inhabitants withdrew in winter to places still unknown in the *Mittelgebirge*.

The only thing produced by our North-Netherlands find-spots, apart from a few pieces of amber and ochre, are the flint implements. They show a highly developed blade industry and include as points the shouldered points and the perhaps somewhat younger Havelte points, many fine blade scrapers with a sharp scraper-edge and often retouched along the edges, and all kinds of burins, among them the *zinken* that were used to excise long slivers from the body of the antler.

It should be remembered that in general the tools represent only a small portion of the total of the flints (in Ureterp only 5 % of a total of more than 5000 flint pieces).

Although the find-spots of the Hamburg culture remain so far restricted to the sand regions, it is not inconceivable that they also lie in the sandy subsoil of the lower-lying parts of Friesland now covered with peat and clay, since the sea-level then was several metres lower than it is now.

After the time of the Hamburg culture the climatic improvement continued. A temporary optimum was reached in the so-called Bölling period. After a short recession the Alleröd period began (c. 10,000–9000 B.C.), and this brought first the extensive birch woods and subsequently the pine forests to our territory. The tundra disappeared.

The sand- and dust-storms that in the previous periods had raged particularly in the winter and were responsible for the deposits of the lower cover-sand, now died out completely. On higher ground, a soil-profile developed: a pale horizon c. 15 cm thick containing a high percentage of charcoal, and often being accompanied by a weak orange-coloured horizon. This soil-profile is known as the Usselo-layer and can be recognized in many Frisian sand-pits. Water stag-

2 T.J. Vermaning's recent discovery of a late-Acheulian find-spot near Hogersmilde is a direct result of the hand-axe find near Wijnjeterp made by H. van Vliet. Further finds of Middle-Paleolithic artefacts in Friesland can be confidently expected.

3 Bohmers 1947.

4 The description of prehistoric man's environment in the Paleolithic and Mesolithic is partly based on three studies by J. Troels-Smith (1955, 1957 and 1960).

5 Maarleveld / Van den Toorn 1955.

6 Bohmers 1960.

nating on the lower-lying parts of the old cover-sand terrain resulted in the formation of fen-peat or gyttja. This can also be recognized in some sand-pits.

In the Alleröd period the summer temperature averaged c. 14° C; this not only brought about a shift in the flora but also attracted animals who preferred the half-wooded country, such as elk and Irish giant deer (now extinct). Bear and beaver appeared. It is also quite possible, however, that reindeer from Denmark came as far south as our region, particularly in the winter.

People roamed over this landscape probably all the year round; we know their remains as the Tjonger culture, so named after the three sites discovered by H.J. Popping in the Tjonger valley, Prandinge, Makkinga and Donkerbroek. Other sites are known at Kjellingen, Appelscha, Houtigehage, Haule, Waskemeer, and Duurswoude II in Friesland. Sites are also found nearby in Drenthe, Twente (*e.g.* Usselo), North Brabant, Limburg (*e.g.* de Banen), and the adjoining regions of Belgium and Germany. Similar or closely related cultures are known under such names as *Federmessergruppe*, Rissen, Wehlen, Creswell.

The flint inventory is evidence of a poorly developed blade industry. The points found were the so-called Tjonger and Creswell points. As a rule, the numerous scrapers were very short.

Bohmers considers the Tjonger culture to be related to the so-called Azilian culture in France and Italy. Its origins were probably quite different from those of the Hamburg culture. The find-spots of the Tjonger culture are scattered over a very wide area. They occur more often in the vicinity of lakes and river-valleys than those of the Hamburg culture. Hunting was definitely the mainstay of life.

At the end of the Alleröd period, the climate became colder again, the pine-trees died, and, although the birches in sheltered places managed to survive, the tundra began to spread again (Upper-Dryas period, 9000–8000 B.C.). The permafrost, which had receded in the Alleröd period, now returned. Volcanic eruptions took place in the Eifel; these may well have been the cause of the extensive forest fires that swept over the entire lowland plain and were responsible for the charcoal found everywhere in the Usselo-layer.

Sand-storms blew again. They brought sand-dunes into existence, the younger cover-sand, under which the Usselo-layer was buried. In this layer culture remains of the Tjonger culture have sometimes been preserved. This was the case, among others, at Een and Waskemeer.

This raw period lasted for a thousand years, and no occupation traces of any importance of this period are known in the North Netherlands. However, traces are present in North Brabant and Limburg and also in the neighbourhood of Hamburg (the Ahrensburg reindeer-hunter culture). European bison, wolves and lynx are known from this period.

In addition to the above-discussed cultures, the so-called Cheddarian culture, characterized by the Cheddar points, was also present in the late-glacial period in this region. The blade industry was well-developed. Long scrapers are numerous. Zeijen is the richest find-spot in the North Netherlands. Houtsma discovered a site near Siegerswoude.

There is a relationship to be seen with England, which was still part of the Continent at this time. Direct evidence of the exact age has not yet come to light, but one is inclined to date the Cheddarian to the Bölling period.

The post-glacial period begins with the final improvement in the climate at about 8000 B.C., and the Paleolithic cultures are succeeded by the Mesolithic cultures.

The Mesolithic (c. 8000–4000 B.C.)

With the forming of hills and depressions in the Upper-Dryas period, accidented terrain came into existence, and this, apart from the sand-drift of the nineteenth century (as in Bakkeveen), gave the Frisian region its present character. The twentieth-century observer must realize that many of the hills have been dug away or reduced in height in the course of historic times. This levelling-off process of the sand regions continues even at the present time. An idea of the original aspect of the hilly younger cover-sand landscape can be had in the neighbourhood of the Bergum lake or on the Duurswoude moors.

As a result of the post-glacial rise of the sea-level and the correspondingly higher ground-water level, this land became increasingly marshy. In addition to the deep *dobben*, which had been formed in the late-glacial period and which had always been full of water, shallow lakes now appeared on the remaining low-lying land. This water-logged landscape extended over great areas of what is now the North Sea. The land link with England was gradually broken.

The climatic improvement resulted first of all in the disappearance of the tundra, then in an expansion of terrain covered with birch-trees *(Pre-Boreal)* followed immediately by pine-trees, exactly as in the Alleröd period.

Hazels then followed, growing among the pines; a little later came elm, linden and oak and, last of all, alder and ash *(Boreal)*. Differences in ground-water level and the presence of rich boulder clay in the subsoil produced a mosaic of vegetation types.

As long as the climate remained continental in type, the

pines predominated. But at about 6000 B.C., however, when the climate turned wetter and the sea began its encroachments *(Atlantic)*, the pines had to yield first place to the oak on higher ground and to the alder on lower ground. At the same time, the increased rainfall resulted in a spreading of fen moss over the marshes, the silted-up lakes and small river-valleys. Sphagnum peat moors began to cover great areas of country that had previously been open water or swampy moor. Because Sphagnum peat has the habit of growing upwards, ground previously dry was also overrun. Only the steadily encroaching sea could put an end to this strangulation of the land.

This sequence of events was of great importance as far as the suitability of our region for occupation was concerned. Although the country was originally marshy and inaccessible, it was, nonetheless, very rich in game. The half-open thin pine woods interspersed with large numbers of hazels offered space to elk, aurochs, red-deer, roe deer, boar and hares. The many little lakes and water-filled small river-valleys were rich in fish and birds. The summer temperature averaged 18–20°C. This environment was highly favourable to people depending on hunting, fishing and fruit-gathering (hazelnuts!).

But, as the climate became Atlantic, the pine was pushed back and the game with it. This applied particularly to aurochs and elk, for these animals found grazing less easy in the dark oak forests than in the half-open pine woods. Only the wild pig could maintain their numbers. In addition, the rapid silting-up of lakes and small river-valleys plus the forming of raised bogs resulted in a correspondingly rapid decrease in the area of open water, which in turn led to the disappearance of fish and waterfowl as sources of food for Man.

Bearing this in mind, it is not at all surprising that the occupation of our region was much more intensive in the Boreal period than in the Atlantic period.

On nearly all the sand-ridges along the small river-valleys or along the edges of the marshes and *dobben*, traces of human habitation are found, namely, hearths, sunken huts, and flint implements. The hearths appear as faintly outlined depressions with a depth and diameter of c. 0.5 m, with a filling of charcoal, sometimes with charred stones or flint flakes. They occur not only at sites rich in flint tools but also in places where flint is extremely rare. The sunken huts are shallow depressions with a diameter of several metres. It is difficult to assess the exact dimensions because of the root activity and podsolization of later periods. Sunken huts are sometimes only recognizable from a slight irregularity in the soil-profile.

Find-spots of flint implements are often rather widely scattered and vary considerably in density. They are all characterized by a microlithic flint industry, but even so they show fairly great individual differences in detail[7], such as points with surface retouch (*e.g.* Bakkeveen) and trapeze-shaped arrow-heads (present at Appelscha and Bakkeveen, but absent at Haule). Up to now, no great differences in age have been established. The C14-dates for the series of Frisian find-spots (Haule, Duurswoude I, Duurswoude II, Waskemeer, Siegerswoude and Rotsterhaule) lie between 6500 and 5500 B.C.

Large find-spots with hearths and sunken huts were found *e.g.* at Haule and Siegerswoude. At Haule, also, a few implements were found in an adjoining peat-layer dated to the late-boreal period, but, unfortunately, no organic traces were preserved.

Find-spots in Friesland extend far to the west and north: in recent years they have been found near Rotsterhaule, Goëngarijp, Kleine Geest (east of Leeuwarden) and Wartena, sometimes covered by peat and clay layers. Even in Julianadorp, near Den Helder, a deep building-pit yielded small pieces of worked flint.

Related groups are encountered elsewhere in the Netherlands, Belgium, France (Tardenoisian) and West Germany. In Germany east and north of the Elbe, in Denmark and in England, cultures are found which contain in addition to the microlithic element a macrolithic element also, in the form of the so-called core- and flake-axes, the fore-runners of the later polished axes (Maglemosian). Summer dwellings belonging to the latter culture have been found in the peat bogs of Denmark and Schleswig-Holstein, and these settlements are a rich mine of information about an environment and mode of life which, with some reservations, can be applied to the Mesolithic population of our region.

The graceful tools of bone and horn, decorated and undecorated (harpoons, axes, chisels, daggers, needles) are well known. The inhabitants hunted deer, aurochs, wild cat, squirrel, beaver, hare, brown bear, and all kinds of waterfowl. Fishing was very important. Amber was used as jewellery and shaped into beautiful animal forms. Hazelnuts are found in very large quantities in the occupation layers.

De Leijen, near Oostermeer, is the only known Dutch site to date from the Atlantic period and, at the same time, the only one which, by possessing core- and flake axes (although these are very few), shows a connection with the Maglemosian culture. Pollen-analysis and C14-date (c. 5300 B.C.) reveal that here during the early-Atlantic period

7 Bohmers / Wouters 1956.

occupation open water still existed adjacent to the inhabited sand-ridge, an exception to the rule. An extra indication of this is the occurrence of charred remnants of water-nuts *(Trapa natans)*, a plant that covered greater areas during the post-glacial optimum period than at present. There is perhaps an explanation for the present isolation of this site in relation to the main distribution area in Denmark: in the Pre-Boreal period no difference existed between the mesolithic cultures of England (Star Carr) and Denmark (Klosterlund), and harpoon finds dated to the boreal period from the Dogger Bank indicate also that the area of the Maglemosian culture was much more extensive than the present scatter suggests. Perhaps other related find-spots will come to light one day farther to the north or west in Friesland. The relation between the site at Tietjerk and that at De Leijen has already been pointed out.

With this site, that differs both culturally and environmentally, the Mesolithic occupation in Friesland comes to an end. A new occupation does not appear until about two thousand years later.

The Neolithic and Bronze Ages (c. 4000–600 B.C.)

Shortly before 4000 B.C. the first farmers and stock-breeders (Bandceramic culture) had already come from the Danube region and penetrated as far as the edge of the lowland plains (Geleen, Sittard and Elslo in South Limburg, a.o.). Under the influence of the subsequent Rössen culture, Mesolithic groups in some areas changed over to the new way of living. Among other places, this happened in the Danish islands and adjoining North Germany. Occupation during the Atlantic period had remained possible here owing to the many estuaries and also because the inhabitants had applied themselves more and more to fishing. The shell middens are witness to this. During the beginning phase, hunting and fishing were as important as agriculture and stock-farming. C. 3000 B.C., a pottery type was developed in this part of Europe, the funnel-beaker, after which the Funnel-beaker culture is named.

This culture, which covered large areas of Poland, North Germany and South Scandinavia, retained its contacts with the Danube territory on the one hand, while on the other it was influenced by the Neolithic cultures that had arisen simultaneously along the West-European coast. Under this influence, some groups belonging to the Funnel-beaker culture took over the custom of burying their dead in megalithic graves.

Various regional groups can be distinguished in the Funnel-beaker culture. One of these has particular importance for us, namely, the group which has been found west of the Weser with concentrations in Oldenburg, the Hümmling and on the Hondsrug. Both in the form and decoration of the pottery and in the ground-plans of their megaliths – short passage, sideward extended chamber – this region shows an individual character.

The oldest Neolithic finds from Friesland belong to this culture. These finds are scarce and consist of the megalith at Rijs in Gaasterland, which contained some flint axes and also some pottery, a couple of flat graves at Allardsoog, each with some pottery, and a few potsherds found in the dunes at Bakkeveen.

The distribution area of the Funnel-beaker culture appears to be markedly greater if we take into consideration the stray finds of good-quality flint axes as well as a few battle-axes, which must probably be attributed to the Funnel-beaker culture (Fochtelo, Oosterwolde, Wilhelminahoeve near Opeinde in Groningen). This area (fig. 1)[8] is enclosed by the contour-line – 1 m NAP for the top of the diluvial subsoil. It should be remembered that in c. 2500 B.C. the sea-level stood at about –3.5 m NAP. Thus Gaasterland (with the Rijs megalithic tomb) was joined through this contour-line to the eastern part of Friesland. The isolated find-spots all lie on or in the vicinity of areas with an altitude of + 1 m NAP, with local variations of + 2 m NAP or more. Probably a number of find-spots of flint implements of Neolithic type belong to the Funnel-beaker culture; when these are found unaccompanied by pottery, it is difficult to relate them to a particular culture.

Occupation in Drenthe was much more extensive. There, too, flat graves occur side by side with the collective graves, which we know as 'hunebeds'. Settlement sites are well enough known there, but so far only rubbish-pits have been found and no clear ground-plans of buildings. Only on the shores of the Dümmersee in the southern part of Oldenburg has a settlement in the peat been excavated, revealing small rectangular houses. In contrast to this are the two 80 m – long buildings found in a Funnel-beaker culture settlement in Denmark and a recently excavated house of 16 x 16 m with rounded ends at Wittewater, Kr. Uelzen.

Drenthe funnel-beaker pottery can be divided into several phases. Apart from the oldest, which in Drenthe is also very rare, all the chief phases are represented in Friesland (the

8 The distribution maps figs. 1–4 have been drawn up on the basis of material from the Musea of Leeuwarden and Groningen, and the archeological collections in Drachten and Gorredijk, so they are possibly not entirely complete.

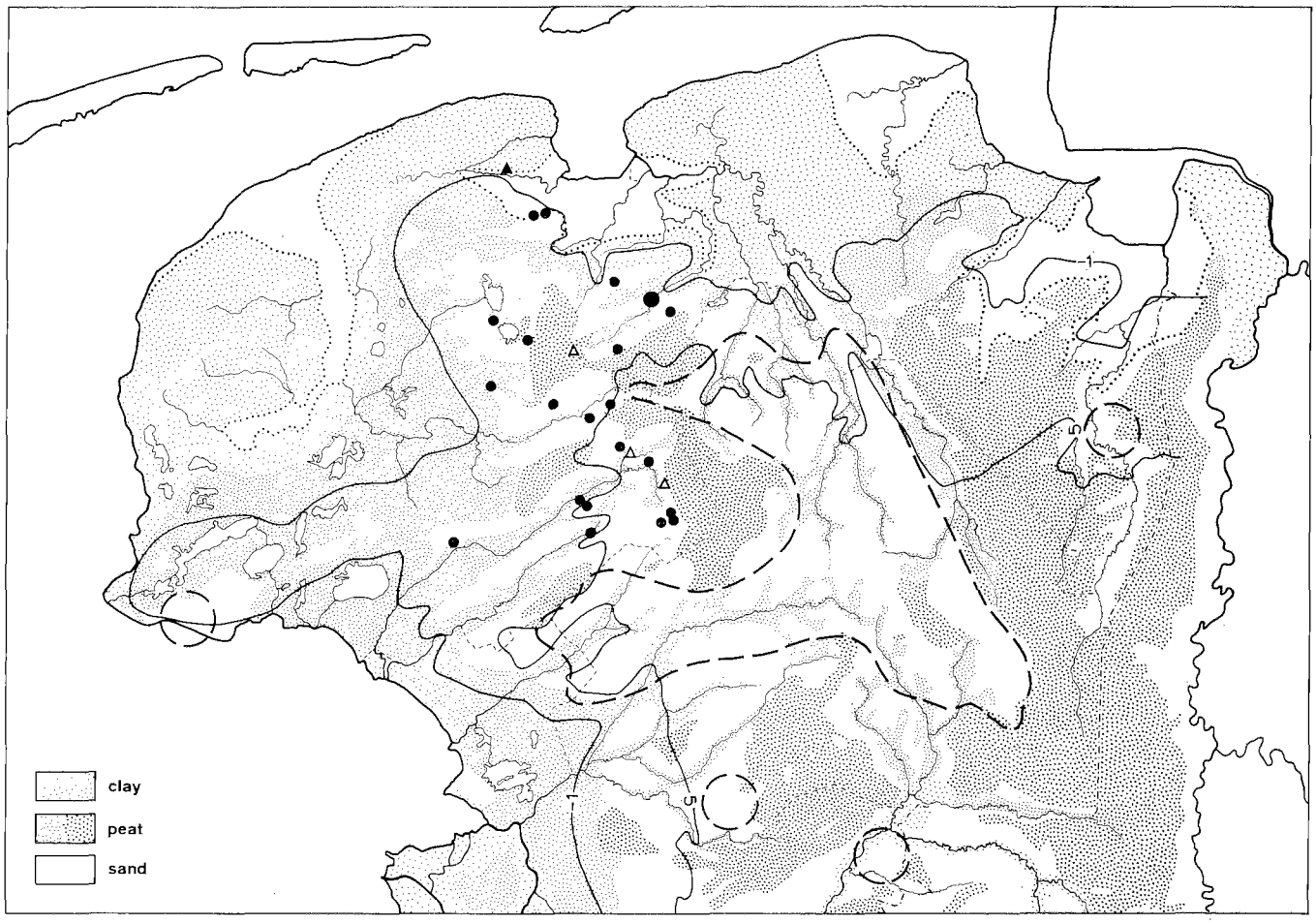

Fig. 1. Axes of the Funnel-beaker culture

area within which graves of the Funnel-beaker culture (megalithic and flat graves)
● silex axe
● id., hoard
△ battle-axe
▲ Rössen-type adze

General note on the distribution maps. To all distribution maps (figs. 1–9) have been added the contourlines + 5 m and – 1 m NAP for the top of the diluvial subsoil (the latter according to Pons a.o. 1963). On figs. 1–4, the provinces of Drenthe, Groningen east of the Hunze, and Overijssel have not been mapped in detail, but the areas within which graves have been found, have been surrounded by a dotted line, indicating the major distribution area of the respective cultures. Figs. 5–9 are mainly based on the author's article in *Offa* (1962).

Drouwen type at Rijs, the older Havelte type and the younger Havelte type or Angelslo type at Allardsoog).
The Funnel-beaker culture's flint industry consists not only of finely worked flint axes and chisels but also of small scrapers, trapeze-shaped arrow-heads, retouched knives, and small borers. Beads were made of amber and jet.
Excavations on the Dümmer have shown that hunting and fishing still played an important role alongside agriculture and stock-breeding. One may assume that the cattle were kept in enclosures. The fodder, probably consisting of leafy twigs, was collected and transported thither by the farmers. Thus the settlement was merely a small open space amid the ubiquitous and dominating oak forests on high ground.
About 2400 B.C. this situation was changed when the people of the Protruding-foot beaker culture penetrated the territory previously held by the people of the Funnel-beaker culture. In order to make space for pasturing their freely roaming cattle, the new-comers burnt off great areas of the forests. Pollen diagrams of the peat bogs and analysis of soil samples taken from barrows show high percentages of lanceolate plantain and sorrel. Heather increases, too. Characteristic graves contain a protruding-foot beaker decorated with cord-impressions or with grooves, a battle-axe, a small axe, and a flint knife. Usually only a few of these objects are found. Flat graves also occur.
The Protruding-foot beaker culture belongs to the battle-axe culture complex, the origin of which is generally assumed to be in Eastern Europe. This culture introduced the wheel in this region: it would appear that a group of massive waggon-wheels found in the peat in the North Netherlands (*e.g.* on the estate of Eese, near Steenwijk), are to be attributed to the PF Beaker culture[8a].
Barrows of the PF Beaker culture are found near Langedijk (tumulus I–III), near Donkerbroek (Galgenberg), near Wijnjeterp (one or two tumuli), near Duurswoude, on the Egbertsgaasten, in De Vianen (near Drachtstercompagnie), and perhaps near De Tieke.
Here, also, we obtain a better picture of the distribution of this culture when other characteristic objects are mapped. For this purpose, only the battle-axes are really suitable (fig. 2). The distribution of the remaining types of axes is given in fig. 3. A great part of these probably came from the PF Beaker culture. It should be remembered, however, that some may still belong to the Funnel-beaker culture, while others were perhaps used right up until the early Bronze Age or were left by people belonging to the Bell-beaker or Vlaardingen cultures.

It is noticeable that the PF Beaker culture is not represented in Gaasterland. It is present, however, in the northern area in the same districts that were already occupied by the Funnel-beaker culture, albeit with clear concentrations: in the region Marum – Trimunt – Drachtstercompagnie – Egbertsgaasten and in the area of Wijnjeterp–Duurswoude–Haule – Donkerbroek – Oosterwolde.
The battle-axe from Peperga links up with the Eese barrow concentration complex, and although the battle-axe from Zwaagwesteinde as such lies on its own, it is, nevertheless, in the vicinity of a find-spot of axes attributed to the Funnel-beaker culture.
The contour-line within which the find-spots occur corresponds completely with that of the Funnel-beaker culture: + 1 m NAP or higher.
Scarcely any PF Beaker culture settlements are known and we know of no house-plans. A cattle-kraal enclosed by a palisade, excavated near Anlo in Drenthe, must be attributed to this culture. It was situated on terrain that had previously been occupied by the Funnel-beaker culture.
The Bell-beaker culture, dated a few centuries later, is known in Friesland in the form of a typologically early maritime bell-beaker, found at Fochtelo. This culture has connections along the West European coast and along the Rhine. It does not occur much further north than the Netherlands. A clear concentration is present in the northern part of the Hondsrug. It is also found in the Dutch coastal areas, *e.g.* at Oostwood and Vlaardingen. Archers' wrist-guards are characteristic grave-goods together with beakers, the latter being characterized by the zoned decoration made with a dentated spatula and the absence of a foot. Bell-beaker smiths were the first to use copper in the Netherlands.
A fourth culture, approximately contemporaneous with the other three cultures, is the Vlaardingen culture[9], and the fact that in appears at the site of Zandwerven in North Holland shows that it might yet be found in Friesland also. The type of axe belonging to this culture has indeed been found in Friesland; namely, at Makkinga and Fochtelo. The Vlaardingen culture is present especially along the coasts of Holland and Zeeland, both on the dune-ridges and flats and the levees and creek-ridges. For this culture, hunting and fishing were important means of subsistence. However, agriculture and stockbreeding were practised as well. Culture traces were also encountered in the sandy soil of the central and southern Netherlands.
At the site of the Vlaardingen culture near Zandwerven, in North Holland, the strong influence of the PFBeaker cul-

8a Van der Waals 1964.

9 Van Regteren Altena a.o. 1962–3.

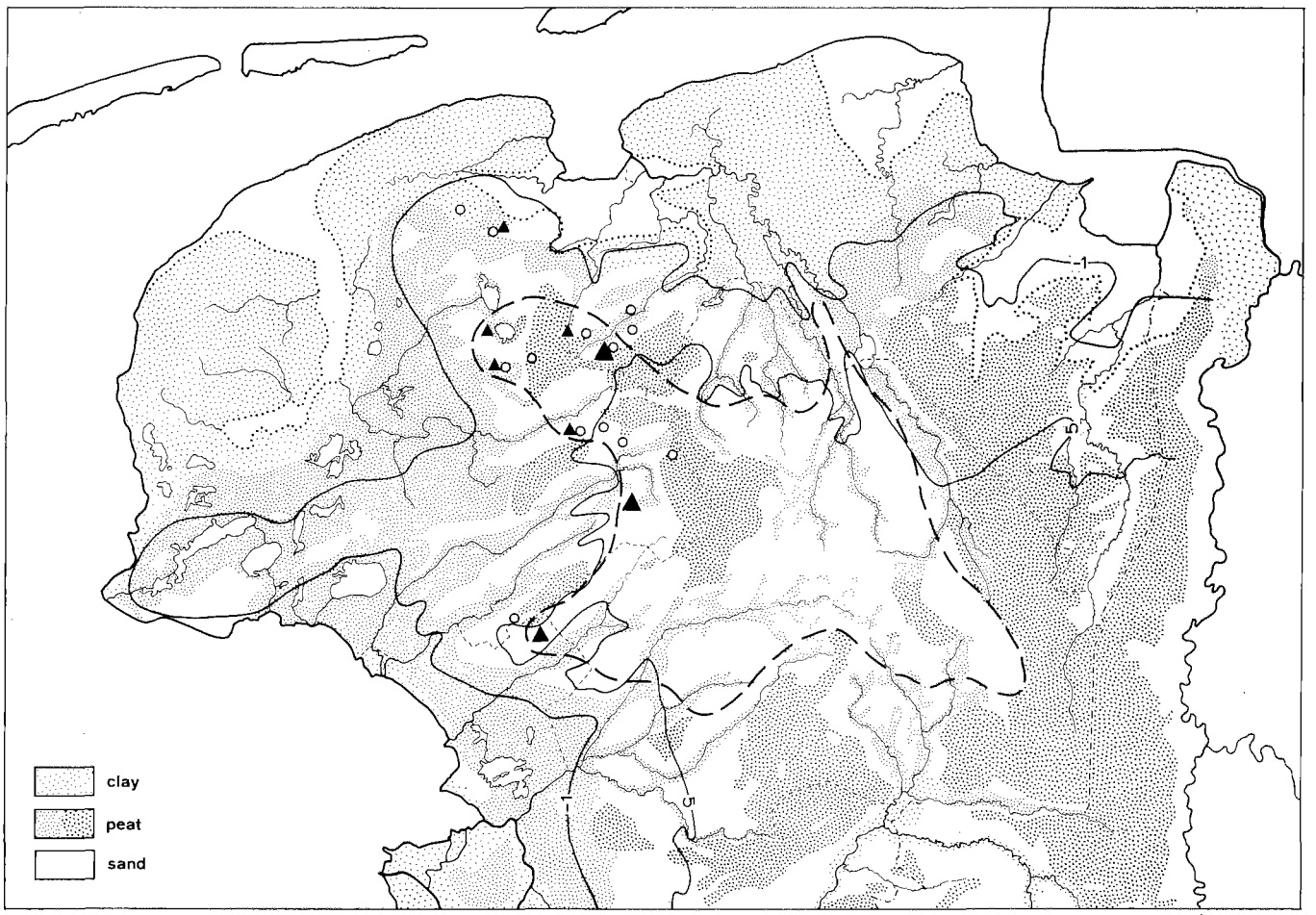

Fig. 2. Protruding Foot-beaker culture

area within which PFB-graves are found (barrows and flat graves)
o battle-axe
▲ barrow
▲ group of barrows

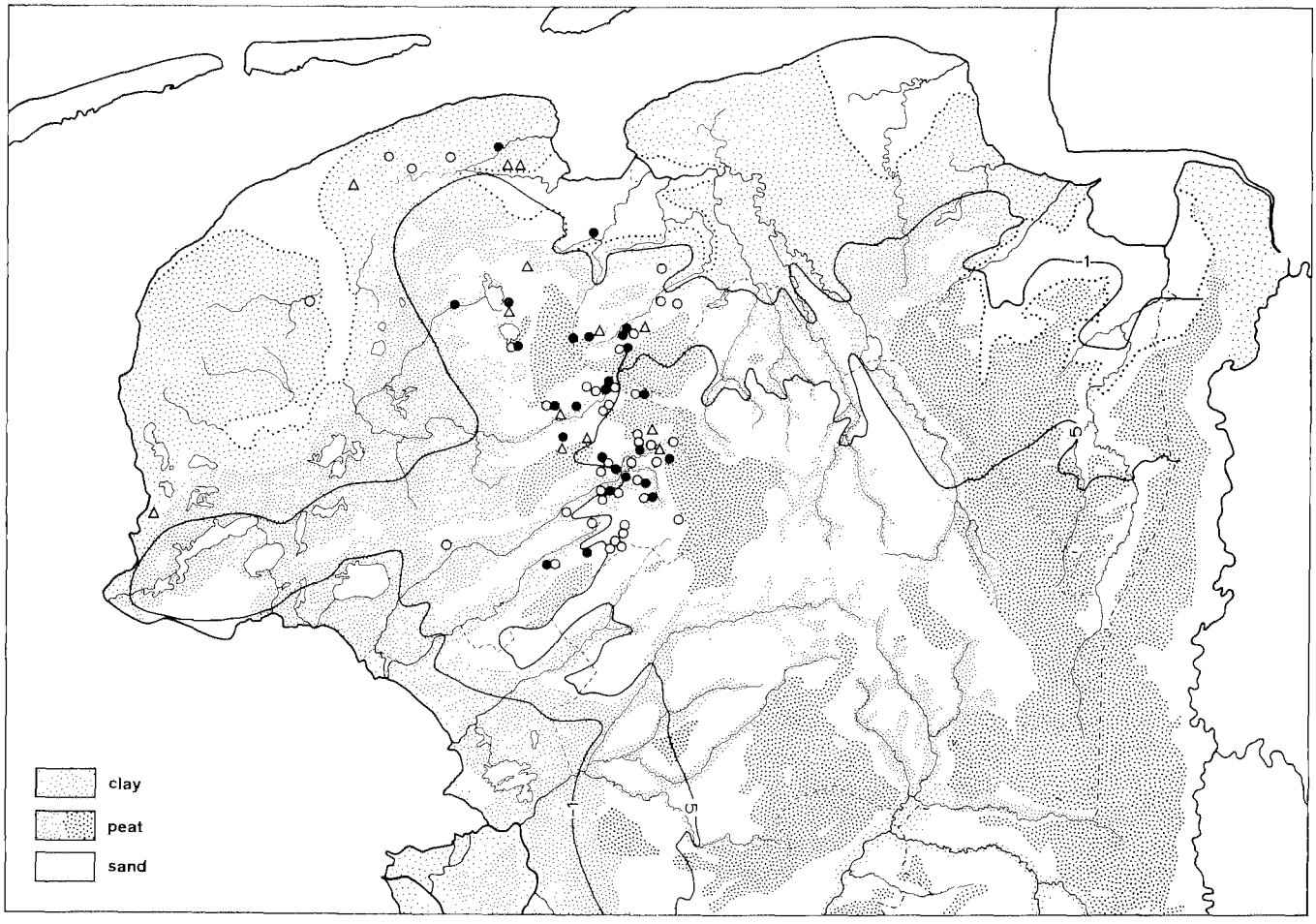

Fig. 3. Remaining types of axes

- ● flint axe
- o axe of other material
- △ perforated axe or adze

ture is shown in the pottery. At Vlaardingen itself a battle-axe of early type came to light. A few beakers are known also from the Wieringermeer area. From this we can conclude that the PFBeaker culture, which was otherwise restricted to the European continent, had filtered through to the low-lying coastal regions.
That the PFBeaker and Bell-beaker cultures influenced each other is seen in the form and decoration of the so-called hybrid beakers. In Friesland, these are only known at Veenekoten. Late Bell-beakers of the Veluwe type are even scarcer in Friesland; one specimen was excavated near Een.

The inhabited area continues to shrink in the Bronze Age (fig. 4). Occupation maintained itself only in the Oosterwolde region, a district well drained by small streams and lying on high ground. Elsewhere, the population was driven out by the peat-formation and the increase in the sea-level.
While the earliest phase of the Bronze Age, characterized by pottery with barbed-wire decoration and mostly findless barrows, is so richly represented in Drenthe, no certain pottery finds can be reported from Friesland. Only a couple of flanged axes, namely, from Suawoude and Donkerbroek, can be attributed positively to this phase.
The incomplete post-circle found with tumulus 1 at Langedijk could belong to the following phase (middle Bronze Age), characterized by barrows with a single timber circle and central shaft-grave containing a trunk coffin. If this is so, then this incomplete circle should belong to an undiscovered grave dug into the beaker-barrow. The fine multiple circle of posts surrounding the barrow at De Knolle, near Weper, is probably somewhat later.
The stray finds of bronze objects from the middle and late Bronze Age hardly affect the distribution picture: palstaves from Donkerbroek and Bakkeveen, a socketed axe from Bakkeveen, spear-heads from Donkerbroek and Bakkeveen, a sword dredged from the Tjonger, a knife found between Haule and Weper, a fine sacrificial knife from Appelscha, two spiral bracelets from Langedijk, a spiral bracelet from Fochtelo, etc.
The Suawoude axe, probably part of a hoard, is remarkable for the singular place in which it was found. However, hoards can be associated with travelling traders or bronze workers, and are not necessarily restricted to the inhabited areas. This applies also to the sword and the axe found in the Tjonger valley, in the vicinity of Oudeschoot. When we realize that a flourishing trade existed in the Bronze Age between the British islands and the mainland of Northwestern Europe, it is obvious that the rivers had an important function as trade routes.

The remaining bronze finds were all discovered either in or near regions lying at an altitude of more than + 3 m NAP, while the barrows all lie higher than + 5 m NAP. This is thus a few metres higher than the find-spots of the Protruding-foot beaker culture.
Near Elp, in Drenthe, a homestead with outhouses was excavated[10]; it had been occupied from 1200–800 B.C. and repeatedly rebuilt. The main building was 25–36 m long, of the three-aisled type, and had a byre for twenty to thirty cows. The outhouses comprised a smaller dwelling-cum-byre and also a large and a small granary.
Recent excavations near Emmen have yielded similar results, so that we may assume that we have here found the normal occupation pattern of the Bronze Age.
If, on the one hand, we have striking evidence of a permanent Bronze-Age occupation in Drenthe, on the other there is evidence of powerful influence from outside. This is shown not only in the provenance of the bronzes, but also in the changes in burial customs and pottery.
Interment in tree-coffins was replaced in the later Bronze Age by cremation and interment of the ashes in urns surrounded by ring-ditches. The pottery, which in the beginning had been coarsely tempered, light brown in colour, and barrel-shaped, the so-called *Kümmerkeramik*, was replaced under the influence of the Westphalian immigrants by thinner-walled darker pottery of biconical and other shapes.
This Westphalian immigration also manifests itself in the so-called keyhole-shaped ring-ditches, whose distribution in the North Netherlands is restricted to southeastern Drenthe and Westerwolde. It is apparent also in the stone battle-axes of the Muntendam type which are found in such great concentrations in Westerwolde and eastern Drenthe[11].
Apart from Westphalia, the North Netherlands was also subjected to influences from the Lower Elbe and the region between the Rhine and Meuse in Germany[12]. These influences show themselves in the appearance of the so-called *zweihenklige Terrinen* (*e.g.* in the Harendermolen barrow) and the so-called *Kerbschnitturnen* (*e.g.* at Emmen), respectively.
As a result of all these influences we see at about 700 B.C., towards the end of the Ha B-period, a culture extending all over the sand region of the north-east Netherlands (fig. 5) characterized by ring-ditch urnfields and possessing its own bronze industry. So far no settlements have been found from this period.

10 Waterbolk 1964.
11 Achterop 1961.
12 Waterbolk 1962.

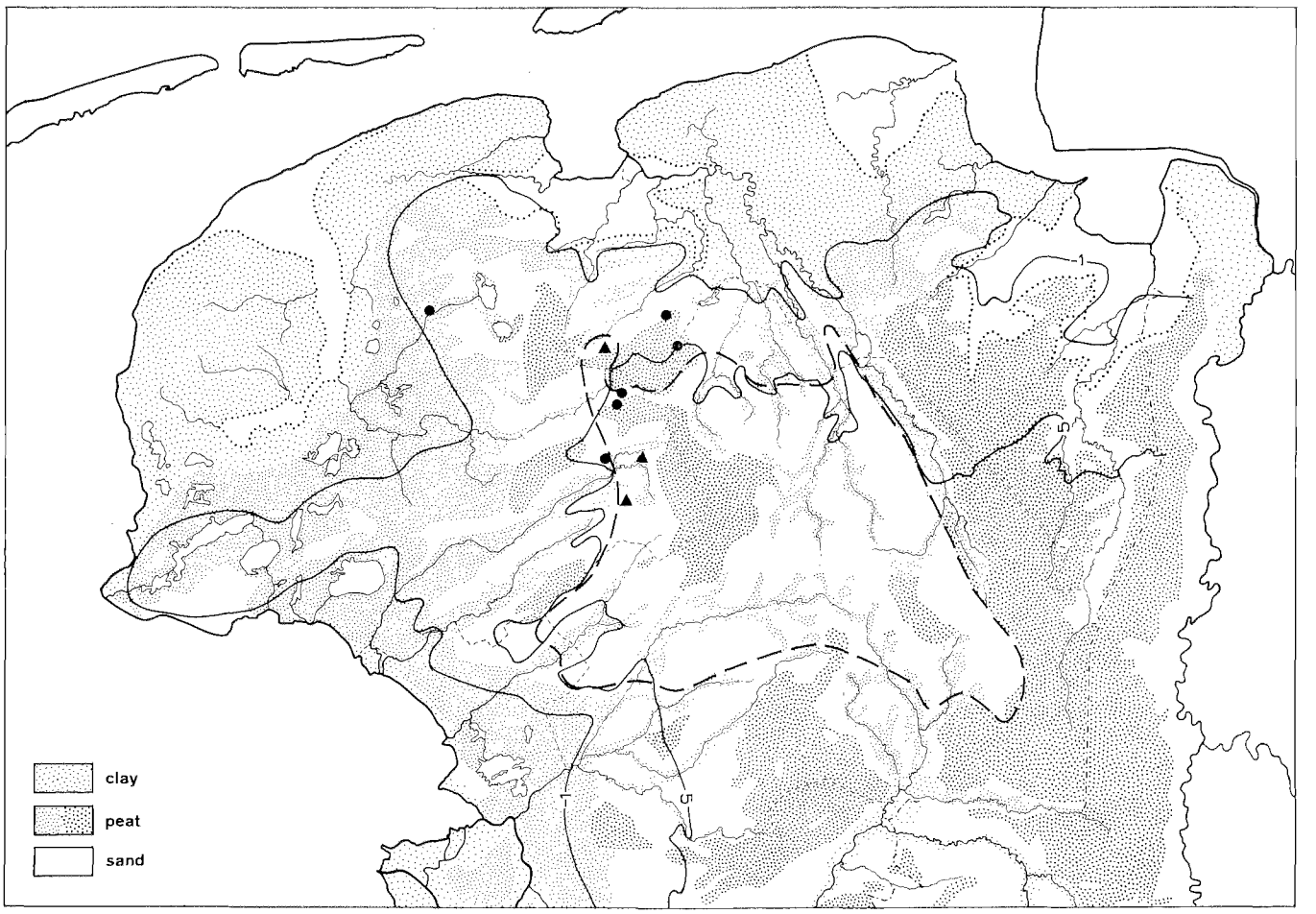

Fig. 4. Barrows and bronze finds of the early and middle Bronze Age

area within which barrows of the early and middle Bronze Age are found
• bronze object
▲ barrow

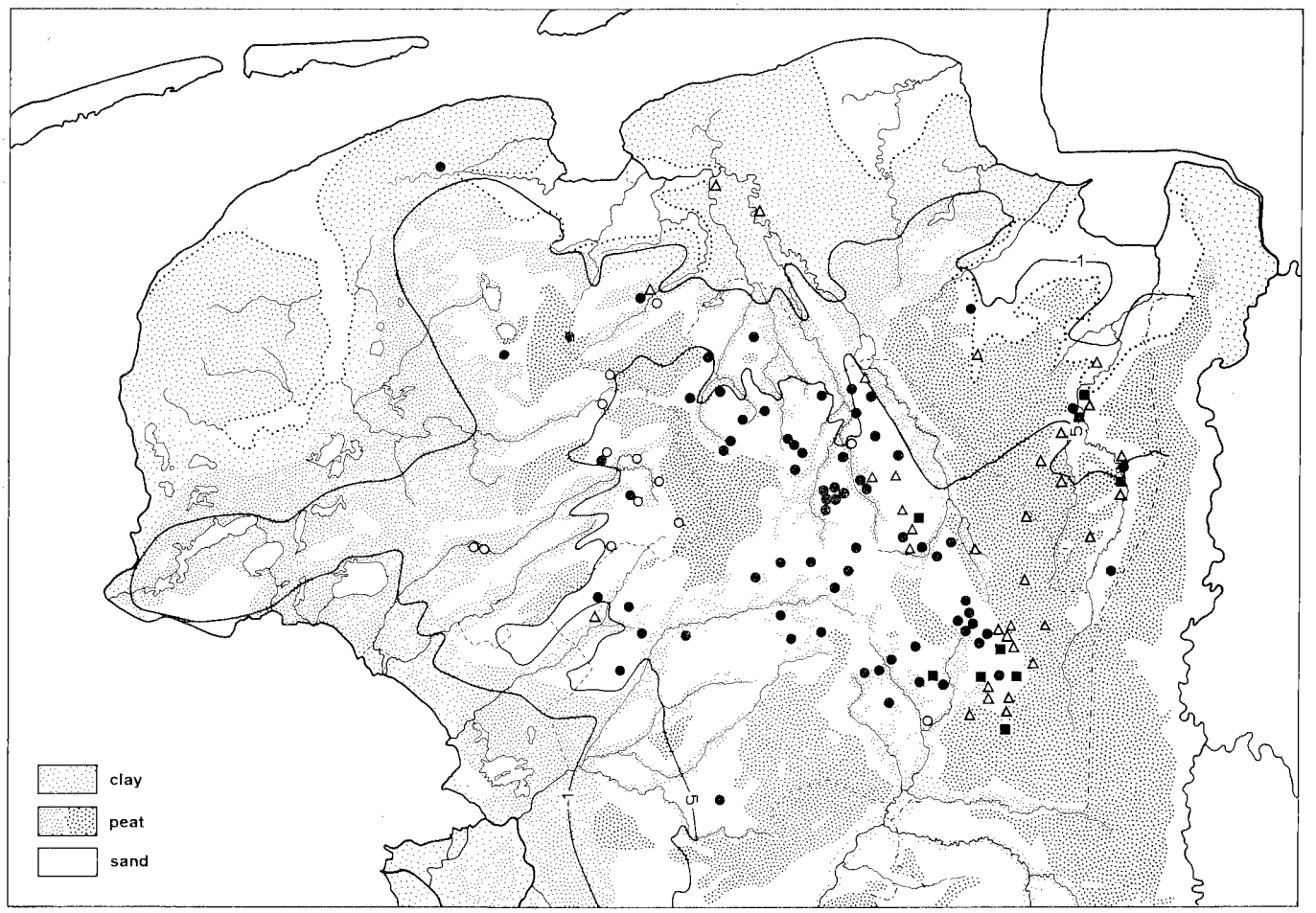

Fig. 5. Urnfield period

- urnfield
- urnfield with keyhole-shaped ring-ditches
- battle-axe of Muntendam type
- bronze find

Similar urnfields in Friesland have been positively identified only at Oosterwolde and Donkerbroek, yet there is reason to assume that they also occurred in the lower-lying areas. Siebinga reports a destroyed urnfield at Legauke, which could not possibly have been higher than + 2 m NAP. He also describes a barrow at Drachtstercompagnie with a cremation-burial[13]. An urnfield had also existed in the neighbourhood (oral communication). Finally, there is the urnfield reported by Van Giffen in the sand-outcrop beneath the Bornwerd terp. His description of the urns leaves little room for doubt[14]. At Westerwolde, relatively near the coast in Groningen, several urnfields are also situated rather far towards the sea: those at Wedde and Zuidbroek are in the only areas within the contour-line + 2 m NAP large enough for occupation. There, the barrows of the middle Bronze Age are also situated higher up the valley (Wessinghuizen at c. + 3 m NAP, with the much higher Onstwedderholte behind it).

In the South Netherlands, the Bronze Age cultures are of a different character. There, simultaneously with the phase characterized by pottery with barbed-wire decoration, we have the so-called Hilversum culture which shows strong British influence and which, apart from the pottery, is characterized by its barrow type (with ditch and bank or surrounded by circles of paired posts and cremation-interments). The Hilversum urns are succeeded by the Drakenstein urns. The distribution of both types includes the hills in Utrecht and the Gooi. Subsequently, when ring-ditch urnfields are also developed in the south, these have a different character from those in the north, because of strong influences from further south.

Finally, we turn our attention to the coastal area of the West Netherlands. There, in the delta region, the Vlaardingen and Bell-beaker cultures were present between 2400 and 2000 B.C., while at the same time the Protruding-foot beaker culture was also active. During the centuries that followed, occupation appeared to be confined to the actual dune region. A varied assortment of late Neolithic pottery was found near Monster, but stone tools and similar artefacts of late Neolithic type were also found at Voorschoten, Hillegom, Katwijk, Noordwijkerhout, De Zilk, and on the island of Texel.

The dune region continued to be occupied in the Bronze Age also. As evidence of this, we have the settlement traces of the Hilversum culture near Monster, The Hague, and Vogelenzang, and further all kinds of bronze objects, some of which also dated from the late Bronze Age. But barrows have not yet been found in this dune region.

The large-scale occupation that occurred in West Friesland after 1200 B.C. is interesting. Many barrows, most of which were on old arable with clear plough-marks, were encountered in the neighbourhood of Zwaagdijk, Wervershoof, Enkhuizen, Grootebroek, Hoogkarspel, in a sandy salt-marsh region, which, as a result of secondary compaction of the sediments, now lies more than 1.50 m below NAP. Several settlements are also known from this region. Their relative nearness to the dunes and the Utrecht hills and certain details of the barrows suggest that this occupation is more closely connected with that of the central and South Netherlands sand regions than with that of the North-east Netherlands. A recent excavation near Hoogkarspel[15] indicates that this occupation survived into the urnfield period proper. An influence from the early northern urnfields might possibly be seen in the appearance of a Muntendam type battle-axe found near Sijbekarspel.

There would appear to be a clear connection between the geological history of the regions[16] and their occupation by Man. This could have first begun in the course of the Neolithic during the early sub-boreal transgression when the coastal barriers formed at a sea-level of 3.5 m below NAP consolidated themselves. That the river-banks and creek-ridges could also have been inhabited between 2400 and 2000 B.C. is definitely linked with the first great sea regression that took place after the rapid rise of the preceding period. A new transgression, the late sub-boreal so-called Cardium transgression (sea-level –2 m), resulted in the forced withdrawal of the late Neolithic and early Bronze Age occupation to the safety of the dunes. This is also the period of least occupation in the Friesland sand region. During a new regression period, occupation again occurred locally, as in West Friesland, on the deposits formed by the Cardium transgression, where it continued to exist from 1200 B.C. onwards.

In Friesland and Groningen, the urnfields of Legauke,

13 Siebinga (1944) dates the mound itself to the Bronze Age, but the flint knife grave-find is more an argument for its attribution to the Protruding-foot beaker culture.

14 Van Giffen 1918–9, 15, referring to Bornwerd: '...Voorts mogen hiertoe gerekend worden enkele urnen (Bornwerd), overeenstemmend met die uit de urnenvelden der naburige zandgronden, uit den tijd om en bij Christi geboorte. Deze vaten zijn gaafrandig, lederkleurig, ongelijk dubbelconisch, en vervaardigd van eene door anorganische bijmengselen gekenmerkte grondmassa. Enkele fragmenten met hoogen hals en gekartelden stafband om de halsbasis en eindelijk een slanke pot met concave nop op den schouder van dito dun gesausd aardewerk...'

15 Bakker / Brandt 1966.

16 Pons a.o. 1963.

Drachtstercompagnie and Zuidbroek, and also the Muntendam type battle-axes from Lucaswolde, Muntendam, and Blijham, could indicate a parallel expansion. That the clay regions of Westergo and Oostergo, formed for the greater part during the Cardium transgression, had originally remained uninhabitated, could have been due to a longer period of sedimentation. But, of course, there may have been other factors that prevented people from settling there. As far as the sand regions are concerned, it is very well possible that the peat-formation, which was stimulated by stagnation of ground water, was the main reason why occupation in Friesland during the Bronze Age, taken as a whole, was much more restricted than in the Neolithic.

The Iron Age (c. 600 B.C. – the first centuries A.D.).
In about the sixth century B.C. a new colonization took place in the clay regions and at almost the same time in Westergo, Oostergo, along the Hunze (Ezinge) and along the Ems (Jemgum, Hatzum).
The estuary of the Rhine was settled, witness the settlement traces found near Alphen and Leiden. The settlements along the Ems and Rhine were quickly abandoned again, but the inhabitants of Westergo, Oostergo and the neighbourhood of Ezinge managed to survive, even when a transgression occurred a few centuries later in the entire coastal area, the so-called pre-Roman transgression. The definitive adaptation to the environmental conditions of the delta was made during this transgression period, and the experience acquired then made it possible to withstand the onslaughts of the sea later, and to know where and when it was safe to establish new colonies on the clay.
Where did these people come from? Recent research has shown[17] that they must have come mainly from the Drenthe sand regions, including Westerwolde and the Ems region, that were densely populated in the late Bronze Age and afterwards practically deserted. But when thinking of Westergo, the possibility must be kept in mind that the Bronze Age occupation of West Friesland – of which the origin must be sought in the central Netherlands sand region and the dune region along the coast – had moved to Westergo. It could thus have functioned there as the nucleus of the colonization from Drenthe.
Evidence in favour of this possibility are the flint 'sickles', much worn and polished through constant use. They are found in great numbers in West Friesland, but they also appear at various places in Westergo. They are also found sporadically elsewhere in our district, *e.g.* on the Frisian sandy soil at Drachtstercompagnie, but always in the same archeological context (late Bronze / early Iron Age). The function of these objects is obscure; although the technique is Neolithic, they were still in use in the early Iron Age.
In West Friesland, little pottery was found resembling that appearing in the oldest terps; until recently this was a marked lacuna, but the gap has now been partially filled by the finds of urnfield pottery near Hoogkarspel and the Sijbekarspel battle-axe. When proof of a fully continuous Bronze Age occupation is furnished in West Friesland it will strengthen the possibility that this region had indeed contributed to the occupation of Westergo. At that time this region formed one geological unit with West Friesland and was thus easily accessible. In any case, of course, the dune regions themselves could have contributed directly to the colonization.
On the other hand, there are indications that the Frisian clay regions in the late Bronze Age were also influenced from the east.
The general state of upheaval reigning in Europe around 1200–1000 B.C., which, according to Kimmig[18], had its origin in the Hungarian plain, brought about changes which we see reflected in the phenomenon of the urnfields, among other things. All kinds of migrations of peoples were the result, which in our region caused population pressure in a northwesterly direction. Our immigrants from Westphalia, characterized by their biconical urns and keyhole-shaped ringditches, behaved according to this pattern. They settled in south-east Drenthe and Westerwolde, but in Drenthe they seem to have met resistance from the native population. Consequently they settled in the lower-lying sand regions also, witness the urnfields at Wedde, Zuidbroek, the appearance of battle-axes in Blijham, Lucaswolde, and the urnfields at Drachtstercompagnie and Legauke. The possibility that they also penetrated the coastal regions proper can be supported by the finds at Sijbekarspel and the urnfield at Bornwerd. A few pots from the Frisian terps may also be viewed in this light for they are still close to urnfield pottery as far as profile is concerned, and are perhaps the fore-runners of the pottery of the Zeijen culture, which will be discussed presently. This view applies to pots from Wommels in Westergo and Vaardeburen in Oostergo.
Although we suspect, on the grounds of the arguments above-mentioned, that small groups of people came to Westergo and Oostergo from the west and east in the late Bronze Age, the colonization, originating in Drenthe, that took place in the early Iron Age was on a much larger scale. In

17 Waterbolk 1959.
18 Kimmig 1964.

order to demonstrate this, we must examine this area in more detail.

The origin of the urnfields in the North Netherlands has been dealt with in the preceding chapter. In the late Bronze Age, extremely heterogeneous influences, some certainly combined with migrations, led to a fairly uniform culture characterized by urnfields with simple round ring-ditches (these were interspersed with a few very long ones with rounded or open ends), by pottery that betrays its mixed origin, and a modest native bronze industry.

At the beginning of the Iron Age the pottery undergoes a distinct change. The Harpstedt type now makes its appearance: bucket-shaped pots with a short neck, finger-tip impressions on the rim, and roughened lower part. They were not set in ring-ditches but scattered haphazardly among other interments or buried secondarily in barrows. With this pottery, the first iron objects appear on the scene.

Along with this rough-walled pottery, albeit much more rarely, we find pottery that is strikingly darker and smoother, sometimes decorated with shallow pits, singly or in small groups. The profile is S-shaped. It occurs with or without ring-ditch.

Harpstedt pottery is considered to have originated in Hannover. It also occurs in the South Netherlands, where smooth-walled pottery belongs to the normal inventory of the later urnfields. In this area both forms are indeed usually surrounded by ring-ditches which, however, are generally open on the south-east side. Although the appearance of Harpstedt pottery is usually thought to be the result of migrations of peoples because burial customs change at the same time, this is not at all certain. The distribution of Harpstedt pottery is illustrated in fig. 6.

From this period in Friesland, we know of only two Harpstedt urns; they were buried secondarily in one of the Langedijk tumuli and in the Knolle tumulus. A large fragment of a smooth-walled pot was used as cover to the urn found at Langedijk.

In the following phase, the Ha D-period, the North Netherlands sand regions show such a distinctive character that one feels justified in speaking of a separate culture – the Zeijen culture.

The pottery's dual character continues. In general the roughened Harpstedt pots acquire a longer neck: the smooth-walled pottery gets a shoulder and also a longer neck, and sometimes shows a typical small pinched handle vaguely reminiscent of the *Gesichtsurnen* from east of the Elbe. The pots are finely modelled.

At this time shoulder development also appears everywhere else in the North-German lowland plain (Nienburg, Jastorf). Below the shoulder, a decoration is sometimes applied of parallel bundles of grooves in characteristic patterns.

Straight shallow bowls appear, sometimes with a small lug. Because it was no longer used as an urn, practically no pottery belonging to this period was known until very recently.

In our region, during this period, the ashes of the dead were no longer collected from the funeral pyre but the pyre itself was covered with a barrow. This barrow may be low and inconspicuous, but it can also be higher. In the first case, only the surrounding ditch, by now it is usually square, has survived; in the second case, ditches do not always occur. Pottery is only found when it has entered the ditch fortuitously. This was the case at Ruinen. Traces of secondary burning here and there occur. The pots had apparently lain on the pyre.

The grave-field at Ruinen[19] has shown us the very clear relation between pottery and grave type; several complexes of settlement remains dating from this time (*e.g.* at Zeijen) have completed the picture. A distribution pattern has emerged from the combination of the appearance of square ditches and the characteristic pottery (fig. 7) demonstrating that it is just as dense as that of the preceding phase, particularly when one realizes that urnfields stand a better chance of being recognized in land clearance than ditches and inconspicuous low barrows.

The Frisian sand regions are now completely empty. Nothing is known in the Drachten – Marum area or in the neighbourhood of Oosterwolde that can be attributed to the Zeijen culture.

It can be assumed that peat-formation had reduced the area too drastically for agriculture and stock-breeding to survive. These areas remain more or less uninhabitated until the Middle Ages.

Apart from the possible earlier finds discussed above, the oldest occupation in Westergo and Oostergo along the Hunze and the Ems belongs to the Zeijen culture. Smooth shouldered pots with one small handle, tall-necked rough-walled Harpstedt pottery, straight bowls, geometric decoration – these have been recognized by all investigators as early terp elements – belong to this culture. Here we are not concerned with one single element but with a complex of shapes and decorations which is found elesewhere in this combination only on the sandy soil of the North Netherlands, so that there can be little doubt regarding the origin of the clay-dwellers in the sand region.

19 Waterbolk 1965.

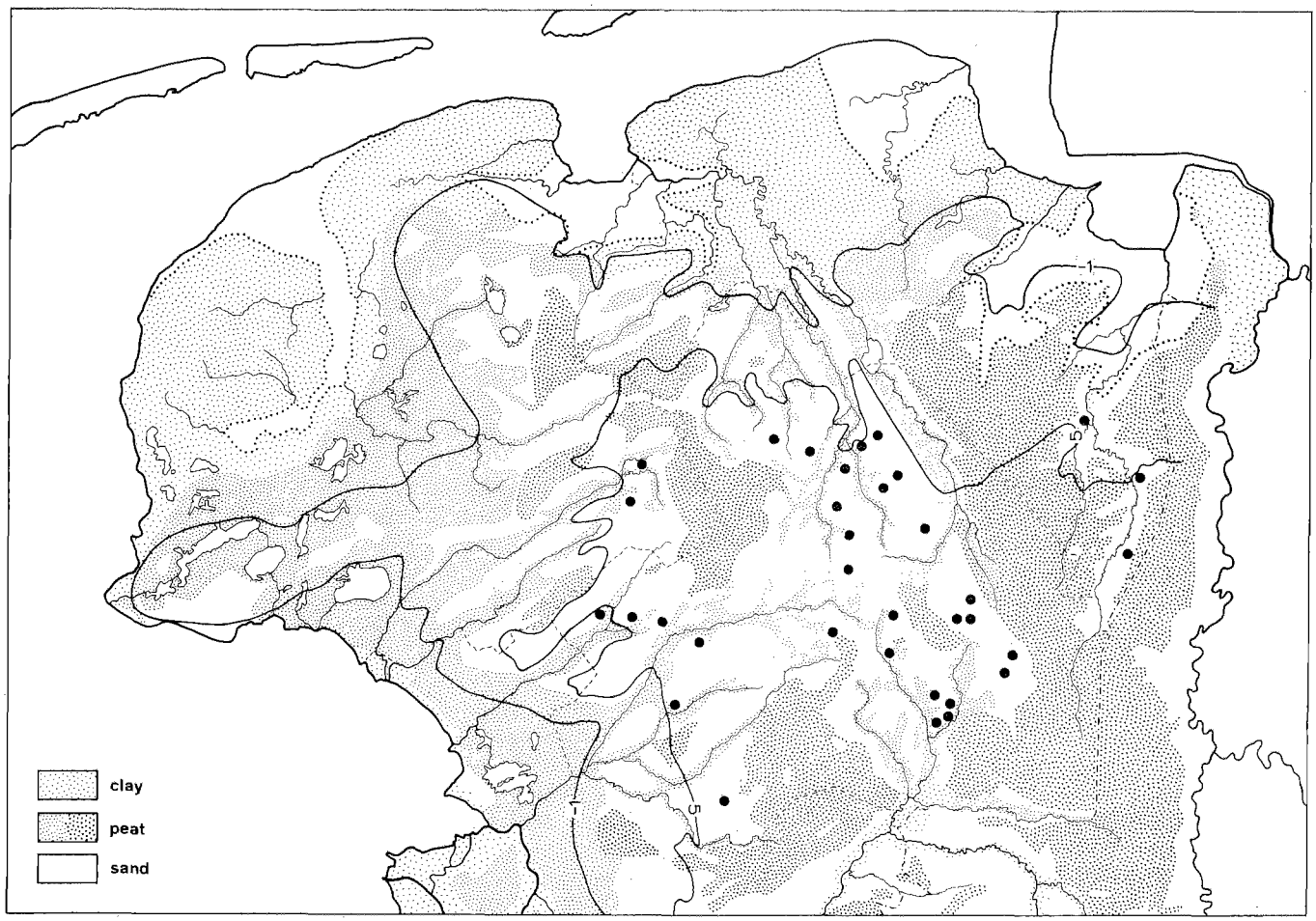

Fig. 6. Urns of Harpstedt type

Previous investigations of this problem were focused primarily on the geometrical decoration. However, this decoration is widely distributed all over Europe, from early in the Urnfield period to the Migration period. It is certainly true that in this respect various regional and chronological groups show a distinctive character, yet certain motifs occur repeatedly. It is therefore understandable that striking similarities have led to certain conclusions regarding the origin of Frisian pottery, and also that the appearance of a particular kind of geometric decoration on native pottery from Roman times has affected opinion as to its dating. Nevertheless, for dating purposes the profile of the pot is of more importance than the decoration, which, after all, only occurs on a relatively small amount of the pottery.

The excavations at Ezinge and Tritsum have enabled us to see the further development of the Zeijen pottery. As far as dating is concerned, the most useful information has come from the smooth-walled shouldered pottery, here named 'Ruinen-Wommels' pottery. The oldest phase (Ruinen-Wommels I, RW I) has a tall undifferentiated neck, and frequently a small handle. In the following phase (RW II) the neck is still tall and now differentiated with a thickened rim, a groove near the rim or a thickening at the lower part of the neck. The small handle has now disappeared. In the third phase (RW III) the neck becomes very much shorter and the shape of the pot more globular. The majority of potsherds with geometric decoration present in museum collections appear to belong to this phase. RW-pottery is generally of a shiny-black colour. In the RW I phase there is still a lot of tempering with granite-grit, otherwise tempering is almost always done with shell-grit.

Many smooth-walled pots have a roughened lower portion but, on the other hand, in the later phases rough-walled wall-profiles show a shoulder similar to the smooth-walled pottery. Thus the dual character is gradually lost.

RW-pottery is succeeded by the so-called *streepband* ware, grey-yellow to orange-red fired pottery, tempered with vegetable remnants (dung), and often decorated with double or triple grooves at shoulder height; the shoulder is sometimes still present – sometimes it is even very deeply sunk, but it often cannot be distinguished at all. The rim is often faceted. Handles (two or more) now appear more frequently. The excavations at Tritsum have enabled us to discover all kinds of transitional phases between RW-pottery and *streepband* pottery. The possibility cannot be excluded that the *streepband* pottery, just as the RW-pottery, can be still further subdivided.

The development sketched here covers the whole pre-Roman Iron Age. There is every reason to believe that by the first century A.D., *streepband* pottery had already passed the peak of its development: some complexes containing Roman pottery from the first century A.D. have it, and some have not. Taking the pottery so far discussed as a general guide, we arrive at the following schematic classification of the pre-Roman Iron Age in Friesland[20]:

600–400 B.C. Zeijen culture (RW I, RW II pottery)
400–200 B.C. Proto-Frisian culture (RW III pottery)
200–first century A.D. Frisian culture (*streepband* pottery).

The term 'Frisian' can be justified in that the pottery concerned remains restricted to the region in which Roman writers encountered the Frisian people; the term 'proto-Frisian' is taken over from Boeles, but we use it in a slightly more limited sense.

The distribution maps (fig. 7–9) show clearly that the centre of this development lay in Westergo. However, North and South Holland north of the Rhine were also involved. Drenthe shared in this development too, and must therefore be included in both the Proto-Frisian and the Frisian regions as well. The map makes it clear, however, that the population in this region decreased markedly, apparently as the result of the migration to the clay districts.

Taking the distribution maps of the successive stages, we see that the population in Westergo and Oostergo in phase RW III had expanded slightly in comparison with the areas occupied during phases RW I and II; elsewhere there seems to have been a decline: east of the river Lauwers only Ezinge remains. Apparently, during the pre-Roman transgression it was easier to survive on the wide clay-flats of Westergo and Oostergo than on the relatively narrow banks along the Hunze and Ems. Nor do we know of any settlements with RW II and III pottery in the clay regions of North and South Holland. These did occur in the dune regions: near Santpoort[21], a settlement has been excavated which had been covered repeatedly with drift-sand but somehow had managed to survive. The oldest four layers contain RW II pottery; the two youngest can be attributed to the RW III-phase.

Another occupation expansion takes place in the *streepband* period (fig. 9). This is shown not only in the greater density of the concentrations but also in the expansion in Groningen and North Holland. There, the estuary of the ancient IJ has a particularly heavy cluster of dots. The mouth of the Rhine was also inhabited. To the south of the Rhine estuary, *streep-*

20 Contrary to a previous publication (Waterbolk 1961), my present view is that the phase RW II should also be attributed to the Zeijen culture.

21 Modderman 1960–1.

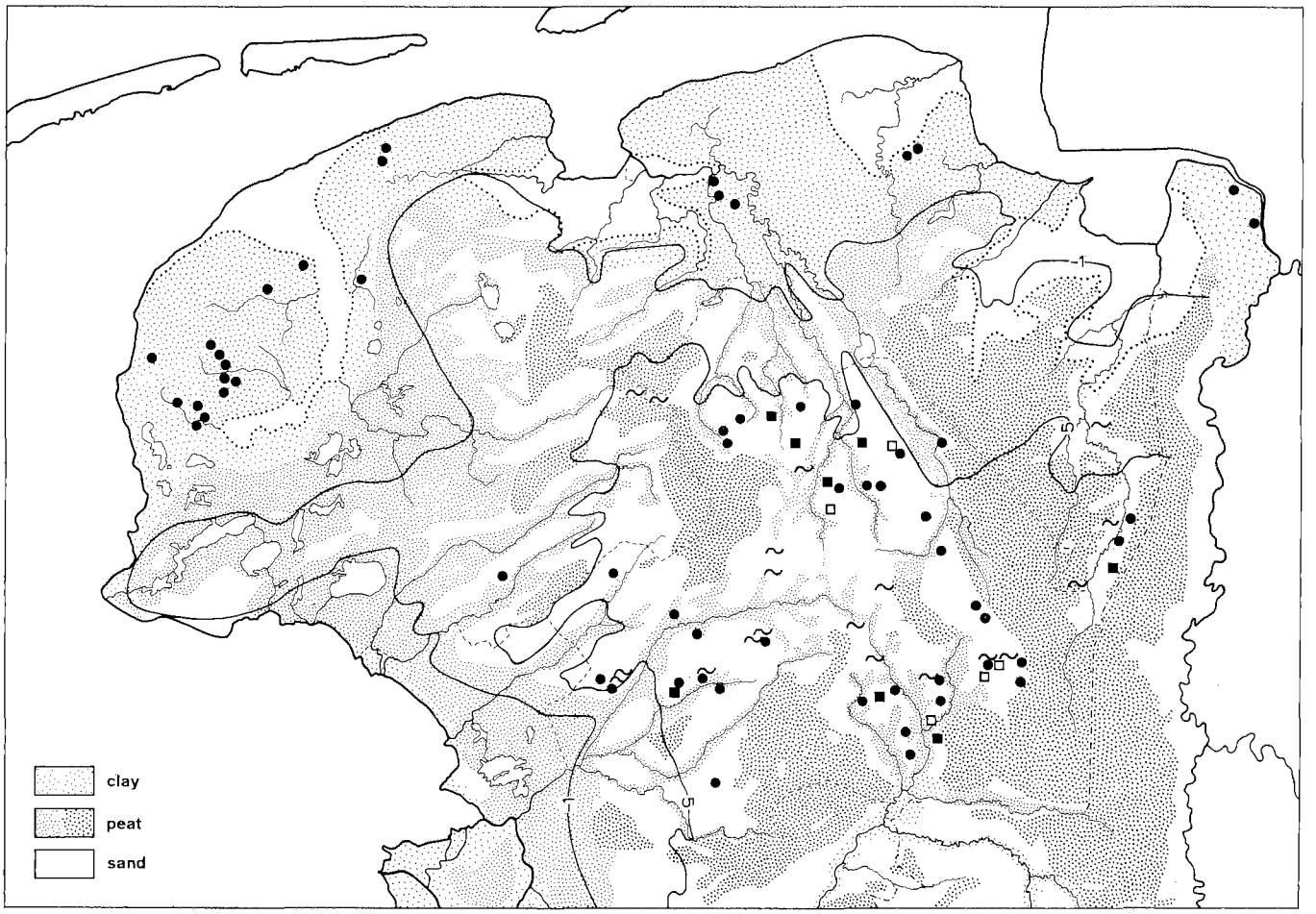

Fig. 7. Zeijen culture

- ● pottery type RW I and RW II
- □ cemetery with square ring-ditches
- ■ id. with pottery type RW I
- ~ double podsol

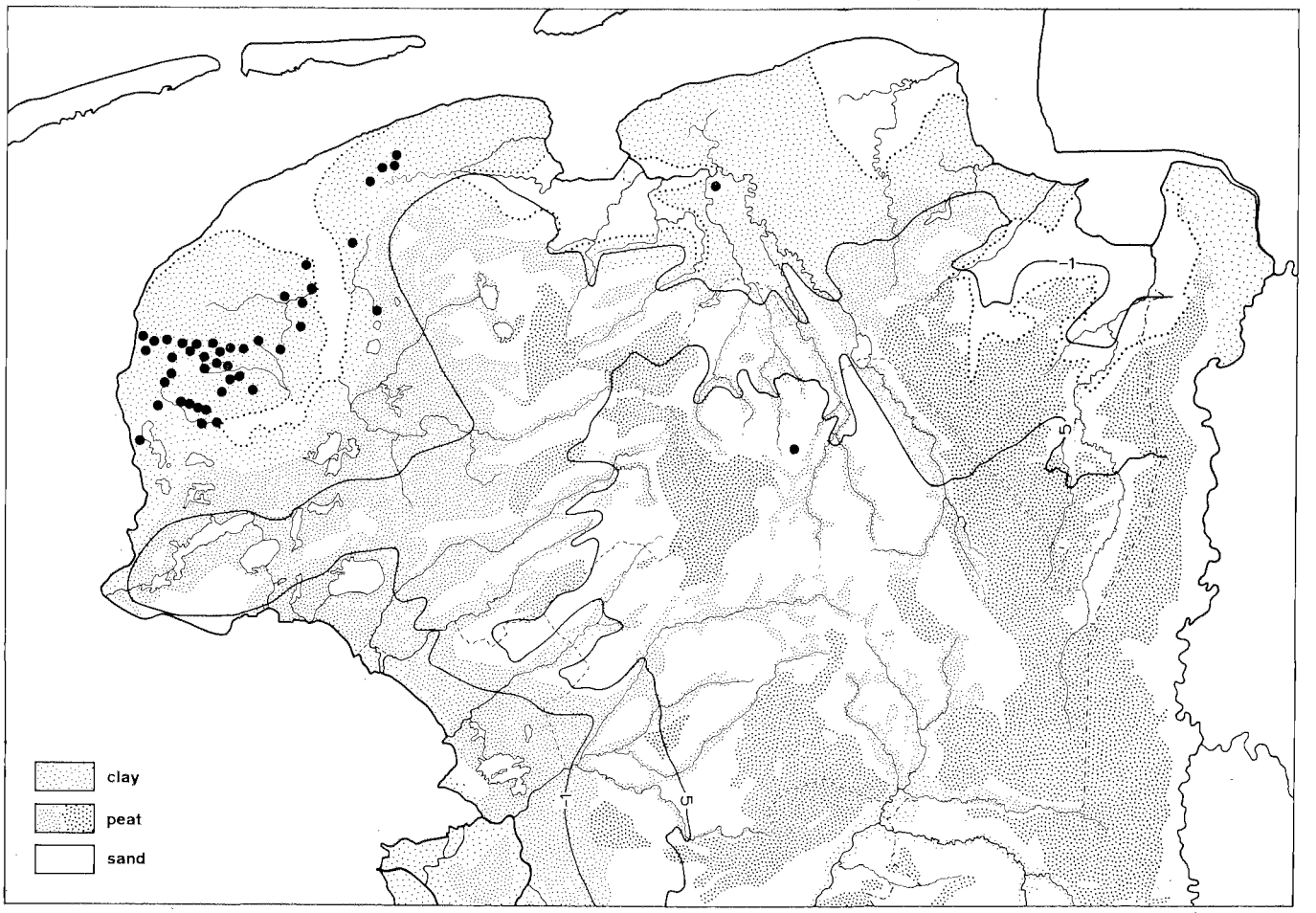

Fig. 8. Proto-Frisian culture

- pottery type RW III

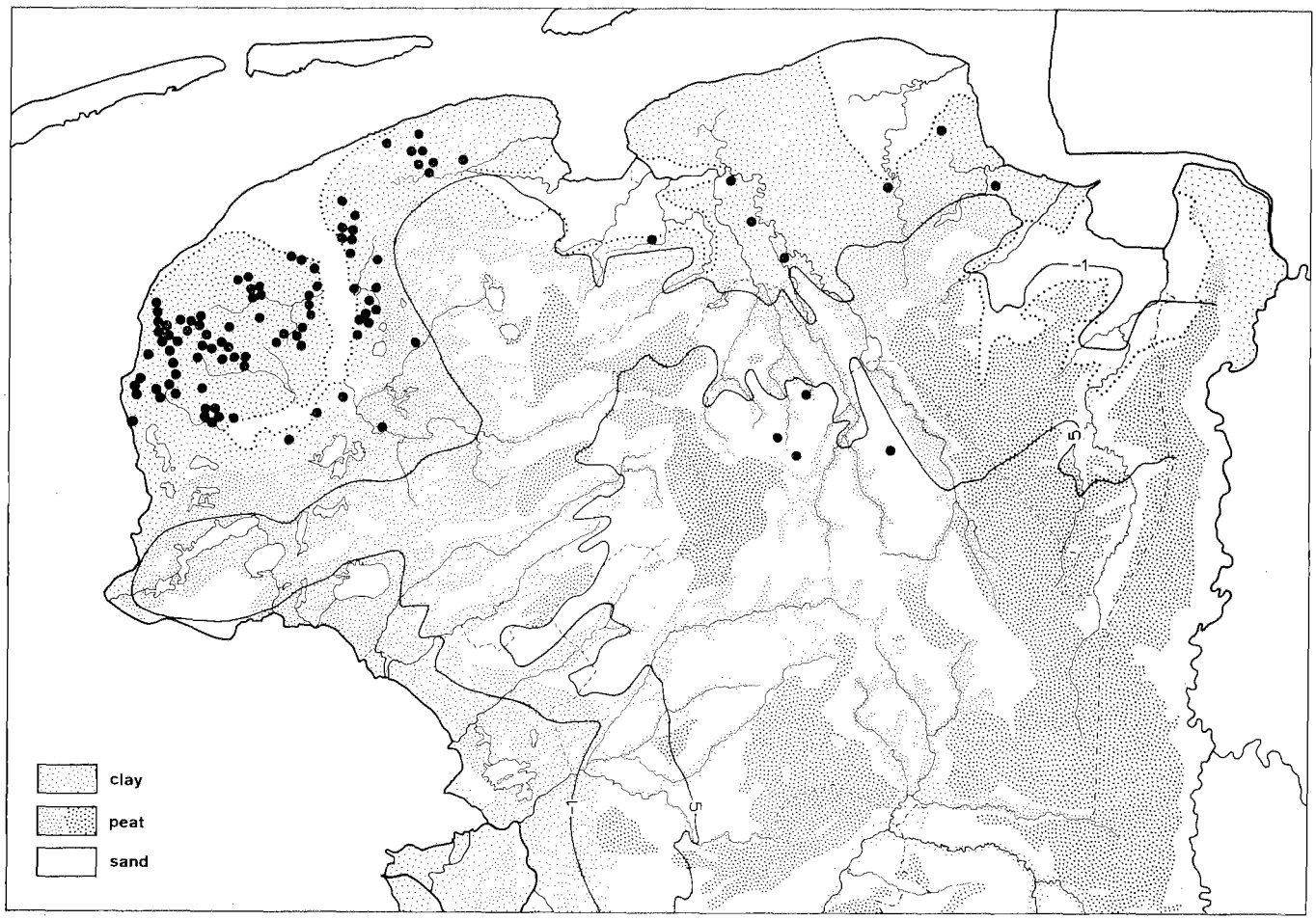

Fig. 9. Frisian culture

- *streepband* pottery

band pottery is found only near The Hague. However, it occurs there in surroundings that are otherwise characterized by the so-called La Panne pottery. In its turn, this pottery also appears further to the north (up to the mouth of the IJ). De Laet[22] attributes this La Panne pottery to the tribe of the Menapii.

The character of the settlements themselves shows signs of this expansion. Many of the new settlements at the periphery of the terp area begin their life with *streepband* pottery. A great many were inhabited for only a short time and then were once more covered with silt. Examples of such silted-up settlements were situated near Sneek (yacht basin), Garijp, Grijpskerk, Groningen (Paddepoel) etc. This occupation on the periphery of the terp region was evidently connected with a new sea regression.

There must have been a good reason for the mass migration of people from the sand regions to the clay. We think that the motive must have been the sand-storms, which took place on such a large scale in the sand regions in the period of the Zeijen culture, and which could have originated only on the extensive arable area, the so-called Celtic Fields. The moorland at that time was not so devoid of trees as in historic times. The so-called double-podsol profiles are witness to these sand-storms which apparently raged for a few centuries only and then died out; the sand-drifts settled and became covered by heath.

A great number of such profiles were observed. However, the chance of finding them at all is extremely small, namely only in those places where they were not again smothered by the sand-drifting occurring in the eighteenth, nineteenth and early twentieth centuries. It is clear therefore, that an event of great magnitude had taken place.

We must regard it as erosion resulting from the excessively large fields necessary to support the increased population in the Urnfield period. Although a slight fall in groundwater may have played a subsidiary role, the main cause was the deforestation of the countryside by the inhabitants and the consequent exposure of the unprotected fields to the winds.

But we must not imagine Drenthe as being completely deserted. Our pottery distribution maps cover only one facet of the actual occupation, and indeed there are also direct indications of a different kind. These consist, for example, of cremation-barrow complexes, such as those at the Emelange, near Wijster, with a C14-date in the last two centuries B.C. These barrows were situated on top of a drift-sand layer. At Havelte, a barrow also lay on drift-sand. Thus the sand-drifting did not necessarily destroy all the fields throughout the region.

Another solution for the inhabitants was to find alternatives in Drenthe itself. Wieringa has pointed out that the Celtic Fields covered both dry and wet ground, and he suspects a difference in age. At Gees, a settlement with RW II-pottery was found in a very wet heathland, much lower than most of the pre-historic settlements. At Bargeroosterveld RW I-pottery was found on boulder-clay, which was shunned, as a rule, in other periods.

Evidence of permanent contact between the emigrants and the people who stayed behind can perhaps be provided by the fact that when many clay-district settlements are abandoned in the second and third centuries A.D. exactly in those places in Drenthe, where traces of the Zeijen culture are found, a more intensive occupation can again be established. These contacts might have been in connection with the common use of the forests for wood.

Van Giffen's excavations at Ezinge are still our guide and mainstay concerning the construction and style of the houses and way of life of the oldest clay-district dwellers. Seen in the light of the new classification of pottery, a study of the finds from these excavations shows us that the oldest layers (VI–IV) belong to the Zeijen, Proto-Frisian and Frisian culture. Thus the development runs completely parallel to that of Westergo, where a similar continuity was found at Tritsum, but where no house-plans were discovered.

Now that three-aisled farm-dwellings dating from the Bronze Age have been found in the meantime at Elp and Emmen, it does not surprise us that this type of house was used in the clay regions from the beginning also.

The house, built on the flat salt-marsh at Ezinge and surrounded by a rectangular palisaded fence, is accompanied by a post-hole complex which, if considered as consisting of three separate groups, could perhaps find its counterpart in the irregular rectangular post-configurations found at Elp adjoining the house and barns. Because only a limited portion of the fenced-in area at Ezinge could be examined, it is not certain whether still more buildings stood inside. There was probably even as early as this a slightly raised older central part, but as this lay underneath the church it could not be excavated. From this nucleus, raised and broadened by the addition of clay marsh-sods and layers of dung, the terp gradually increased its size and height in the course of the following centuries. In the *streepband* period, the terp was already c. + 2.80 m NAP high and had an estimated diameter of 150 m. By placing the farms radially, 15 at a rough estimate, the raised dwelling-space could be used most economically.

22 De Laet 1961.

At Tritsum also, the terp grew considerably higher during the *streepband* period, even though occupation was still possible at the same time on the flat marshes on the periphery of the terp area. It certainly appears from this that the formation of high terps was rather the result of the occupation – by the accumulation of dung and other waste, and the use of clay for facing the walls and floors and for the extension of the dwelling area – than of deliberate planning. A low mound was an adequate protection against floods.

We shall never know whether the closed groups of farms arose from the need of protection against the periodic floods or whether this system was determined primarily by tradition or family ties or for other reasons. One can only conclude that this occupation pattern provided a good defence against the threat of floods, particularly during transgression periods, and therefore continued to be practised.

It is remarkable that hardly any graves are known dating from the pre-Roman terp period. It may be that the dead were cremated and that the funeral pyres were perhaps surrounded by square ditches as in the sand regions, but so far no such grave-fields have been found. In West Friesland only, near Hoogkarspel[23], has a barrow been found surrounded by a rounded-off rectangular ditch and thus perhaps attributable to the Zeijen culture.

However, a fairly large number of skeleton-finds have been discovered scattered loosely about in the body of the terp: but judging from the haphazard method of burial this seems to be an abnormal state of affairs.

Imports into Friesland from outside are rare in this period. They are limited to a few bronze pins, rings, and beads; the only striking exception is the find at Zwichem, consisting of a bracelet and a so-called chatelaine.

The Proto-Frisian and Frisian cultures of the pre-Roman period give the impression of being isolated but flourishing cultures that had adapted themselves remarkably well to the marshy environment. Their example must surely have given a powerful stimulus to the colonization of the clay regions in the adjacent coastal regions to the south and east.

As an illustration of this, the *streepband* potsherds found in the oldest layers of the Feddersen Wierde, north of Bremerhaven[24], may well be regarded as export-goods. The Menapic occupation, which runs from the coastal region south of the Rhine to Flanders, must have profited considerably from the experience of the Frisians.

The same holds good for the occupation of the mid-Netherlands river areas, where the Batavians were encountered in Roman times. The study of the origins of these tribes falls outside the scope of this chapter. We can say, however that in the South Netherlands and adjoining German sand regions similar phenomena are to be observed as in the north: local dense occupation in the late Bronze Age, occupation layers of this period covered with sand-drifting, thin find-density in the pre-Roman Iron Age. There is every reason to suppose that the development here followed a similar course. But for the time being we lack the archeological material to support this hypothesis.

If we consider the outline of this development once again, then one period seems to have been primarily responsible for activating the really extraordinary Frisian culture existing in the Roman period, namely the period between c. 400–200 B.C. Developing in a transgression period in Westergo and Oostergo, the Proto-Frisian culture initiated the singular combination of cultural independence and complete adaptation to an environment dictated by the sea, a combination that was to prove its worths in later centuries.

23 Bakker / Brandt 1966.

24 Schmidt 1965, 33.

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W. A. VAN ES

Friesland in Roman Times

1 THE ENVIRONMENT

The province of Friesland as we know it today was also the heart of the region occupied by the Frisians during the Roman period and as such it will take a central place in our discussion. However, we cannot halt at its frontiers. As far as its landscape and geography are concerned, it does and did not form a unity. Three different types of country are to be distinguished, and their natural frontiers do not correspond with the present provincial boundaries. Moreover, since Roman times there have been many drastic changes in Friesland's landscape and its geography.

At about the beginning of the 1st century A.D., an open (undiked) salt-marsh covered the north-west and the north. The marsh had dried out long before and the first inhabitants had settled there since the 6th century B.C. This old salt-marsh extended to the east into what is now known as the North Groningen terp region, while in the west it joined on to the marsh districts of Noord-Holland.

To the south and east of the Frisian marsh lay an expanse of low-lying boggy land that formed the transition between the relatively young clay districts and the high pleistocene sand regions, which by the beginning of Roman times had already been occupied for thousands of years. In the province of Groningen a similar intermediate zone was also present, while to the south-west kernel of the later Zuider Zee, the Flevo lake, was also enclosed by bog.

In Gaasterland, in the extreme south, and in the east of the province, outcrops of pleistocene sand appeared.

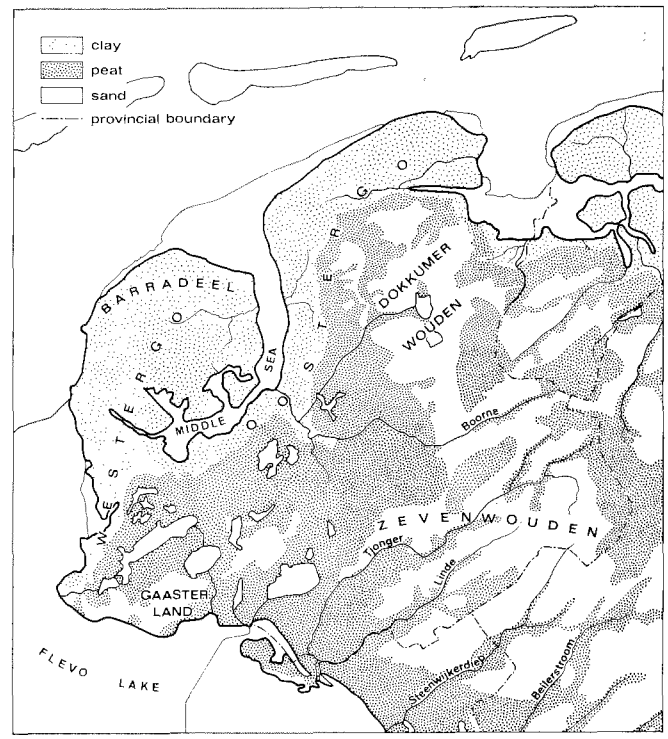

Fig. 1. The Province of Friesland: soil types

The southern boundary of the old salt-marsh is given approximately by the line Makkum-Sneek-Grouw-Warga-Birdaard-Dokkum. The northern boundary diverged very strikingly from the present coastline at many points; only the stretch between Hallum and Holwerd has not been subject to significant change. The landscape east of the line Holwerd-Foudgum came into existence only after the Roman era. At about the beginning of the 1st century the north-west boundary ran roughly along the line Harlingen-Dronrijp-Beetgum. Barradeel, to the north of this line, was fit for occupation only in the Middle Ages after c. 600 A.D. The old Frisian salt-marsh in fact can be divided into two parts: Oostergo and Westergo. In between lay a depression into which, according to current opinion, the sea had begun to penetrate before the beginning of the 1st century A.D. This encroachment was the start of a development which

eventually led to the formation of the Middle Sea. The northern part of the Middle Sea, its 'funnel', must be regarded as being the widened lower reaches of the small river Boorne and even as early as Roman times it must have been an important feature of the landscape. The southwesterly end of the inland sea between Rauwerd and Bolsward, the 'sack' attached to the 'funnel', must also have begun its development before the 1st century. It is assumed that the Middle Sea reached its greatest size only in the period between c. 250 and 1000 A.D. Nevertheless, its origins certainly go back to the Early-Roman period, and it was possibly a useful water-route even then. The question remains whether this embryo Middle Sea was already connected to the Flevo lake, just as the full-sized Middle Sea was in the Early Middle Ages. It is not impossible that this water-route, cutting right across Friesland from south to north, already existed in Roman times.

Both parts of the Frisian salt-marsh were bounded on the sea side, to the north and west, by a series of parallel sandy marsh-ridges with stretches of lower-lying flat land behind and between them. Terps are found on the ridges as well as on the lower lying parts behind. The clay districts were intersected with innumerable watercourses and streams which acted as means of communication, replacing the inadequate land routes.

Unfortunately, geobotanic research cannot yet give an exact picture of the appearance and aspect of the Northern Dutch old salt-marsh. The environment was predominantly salt or brackish and this made tree growth on any scale impossible. But in spite of this, not only vestiges of salt-water plants have been found in North Netherland terps, but also plants usually only found in fresh water environment. It is possible that the latter were partly secondarily present in the terp region. They may have been carried thither by storms and floods coming from places further inland. In addition, the terp-dwellers certainly collected their building materials (wood) and possibly the bedding for the byres (heather and peat) from the hinterland. Also some of the cultivated plants found may have been imported, but it is improbable that this applied to all. There are many indications (remains of cultivated plants with the roots still attached, plough-marks, field systems) which show that agriculture was also possible, at least at certain periods, on the flat marsh outside the terps. This all means that there must have been some degree of de-salination of the clay districts.

Apart from the lack of adequate information, botanical reconstruction of the old clay landscape is made more difficult by the fact that the original situation was drastically altered everywhere as a result of the diking-in of the land. Directly comparable situations do not exist anymore. Only the salt-marshes outside the dikes, which still exist in their natural state along the coast, preserve an original situation. However, these are only useful for the impression they give of the original appearance of the outer zone of the undiked clay regions.

In recent years systematic research into the terp culture environment has been carried out especially in the North-German coastal region. The publication of the results of this research, notably that at the Feddersen Wierde, a terp which as far as its location is concerned can be fully compared with those in the North Netherlands, is still not complete. But interesting information has become available recently regarding the area around Jemgum on the lower reaches of the Ems and the Tofting region in the Elbe estuary. At the beginning of the 1st century, it appears that dense forests were still present in these regions, but that as early as the Roman period these woods began to diminish in size as a result of human activities. Both areas are, however, so-called *Flussmarschen* and cannot be directly compared to the *Seemarschen* in which our terps are located. In these river-clay districts, the environment was made completely salt-free by the action of the rivers. In Friesland only in the depression of the later Middle Sea may a situation more or less analogous to that in the German *Flussmarschen* have existed.

The transition zone between clay and sand, the *Lage Midden*, was situated east of the Middle Sea valley. This zone consisted of great expanses of peat-moor, which since then has been practically denuded by turf-cutting. The western part of this area must be considered a marginal zone of the old salt-marshes. The peat here was silted over by a clay sediment tapering off to the east and south probably not long before Roman times (Pre-Roman transgression); this sediment was deposited over the fen landscape by means of erosion gullies. Occupation in the Roman period is only encountered in this silted-over peat; the fens proper were apparently uninhabited.

The eastern and southern boundary of the fen region was formed by a girdle of younger coversand. The older coversand landscape of the Friese Wouden then runs away to the east and south. In the Zeven Wouden below Drachten, the land consists of a series of parallel cover-sand ridges, divided by valleys, with a clear north-east/south-west orientation. This part of the Friese Wouden is, in fact, the western slope of the Drenthe plateau. The contrast between valleys

and ridges in the Dokkumer Wouden is less pronounced and the ridges also lack a definite orientation. Finally, in the extreme south-west of the province, one finds the diluvial outcrop of Gaasterland where the boulder-clay lies locally on the surface.
The north-east/south-west oriented valleys of the Zeven Wouden represent the drainage system of the western part of the Drenthe plateau. Of these drainage rivers, the Tjonger, the Linde and, outside the Frisian borders, the Steenwijkerdiep and the Beilerstroom, have not changed their courses. They communicated with the Flevo lake, possibly indirectly by way of the lower reaches of the Overijssel Vecht. Although their importance had decreased considerably since the late-glacial period, it is possible that they still functioned as waterways in Roman times. Further north, in the meantime, the Boorne had altered the course of its lowers waters because its original valley had become dammed with cover sand. To the south of Beesterzwaag this river had changed its original bed and wound away to the west; it sought a way through the moors of central Friesland and ran out into the low-lying land between the salt-marshes of Westergo and Oostergo to form the beginning stages of the development of the Middle Sea. This secondary course of the Boorne was the only direct communication between Westergo and the sand regions of Drenthe, but there are no clear indications that this possible means of contact was often used in Roman times.
A close relation between Oostergo and the hinterland of the Dokkumer Wouden is more plausible. Indeed, Westergo also, as far as communication via the Boorne is concerned, probably tended to turn primarily to this northernmost part of the forests. Considering that they were separated by wide peat moors, it is most unlikely that there was a close connection with the Zeven Wouden. These sand regions of Oost- en Weststellingwerf join on to central and south Drenthe more directly.
The Friese Wouden were the nearest place where the inhabitants of the old salt-marshes could find certain building materials, such as oak and possibly other raw materials such as bog-ore. In these respects they may have had some importance, but as an area in which to live these places did not seem to be particularly attractive in the Roman period any longer. In any case, occupation traces from this period are scarce and the number of finds in the south-east part of the province is strikingly small in comparison with those in the terp districts. It is possible that with the encroachment of the peat starting from the valleys, the space available for dwellings and pasturage had become too small. The clay regions undoubtedly offered better living conditions and in the course of six centuries the population had grown accustomed to these new surroundings.

During the first centuries A.D. the south-east and central regions of the province of Friesland thus played a subsidiary role. The nucleus lay in the clay regions. One of the important factors in the development of the terp culture was that the terp regions lay on a water-route which, via Vecht (prov. of Utrecht), Flevo lake and Vlie, connected the Rhine with the North Sea and with Scandinavia beyond.

The environmental circumstances pertaining in Friesland during Roman times were not at all settled. The centuries around the beginning of our era were characterized by relatively little sea movement. After this rest phase, however, the sea became very active again in the course of the 3rd century: the Late-Roman transgression, which lasted until the 7th/8th century. Of course the influence of this transgression made itself felt particularly in the salt-marshlands and the Middle Sea depression. A layer of sticky clay *(knikklei)* was deposited behind the marsh-bars and also over the outer western edge of the Mid-Frisian moors. In the lower-Boorne region the pattern of sedimentation suggests that the landscape was completely flooded. It hardly needs to be said that the Late-Roman transgression was an event of radical importance in the development of the terp culture. As a consequence, the living conditions of the inhabitants of the clay region were worsened considerably. In many cases the occupation in the marginal zone along the old salt-marshes could no longer survive.

Selected Bibliography
Atlas van Nederland 1963– ; Bakker 1958; Beijerinck 1929–31; Cnossen 1958; Cnossen / Heijink 1965; Grohne 1965; Halbertsma 1955; Van der Poel 1960–1; Santema 1962; De Smet 1964.

II THE MATERIAL CULTURE

(a) *The Settlement*

In the Frisian clay regions many pre- and proto-historic dwelling-sites betray their presence by jutting out above the surrounding countryside as terps. A settlement is frequently found on the terps even now and in these cases a continuity of occupation right up to the present day is suggested. Many of them, however, have in the meantime lost their original character as dwelling-hills and lie abandoned in the middle of the fields or meadows.
The assumption held by so many in the last century that the

terps were natural formations has now been proved to be indefensible. Moreover, archeological investigations have shown that the terp, under normal circumstances, is the final phase of a development, of a kind of growth-process. Dokkum is the only place where a terp is known to have been built to a quite considerable height in one operation. This does not apply to the actual town-terp, which is undoubtedly older and originated in the usual way, but to an 8th-century expansion which was intended to carry the memorial church to Bonifacius. This 4 m high *'tumulus'* constructed of marsh-sods is exceptional. In all other terps where excavations or observations were carried out, it was recorded repeatedly that they had begun very humbly, namely, as *Flachsiedlung* built directly on the surface of the flat marsh.

The terps did not all begin their development at the same time. Several generations can be distinguished. The oldest starts in the 6th century B.C. when the first colonists of the Zeijen culture came from the Drenthe sand regions to settle on the dry parts of the old salt-marsh. This first generation is represented by terps such as Ezinge and Tritsum.

The second generation began about the beginning of the 1st century A.D. Up to the present time, no example of this generation has been investigated in the Netherlands. Abroad, the Feddersen Wierde, to the north of Bremerhaven, is a good example.

The Frisian terps lying on the northern edge of the Westergo marsh between the lines Harlingen-Achlum-Winsum-Engelum and Harlingen-Dongjum-Beetgum belong to this second generation, because then this region became habitable for the first time. Many terps were probably established in Oostergo also in this period. According to Cnossen[1], terps in Mid-Friesland such as Deersum and Harstaburen began at about the beginning of the 1st century A.D. Halbertsma[2] points to a continuous occupation in the area around Sneek from the Roman period up to historic times.

The following terp generation began in the Early Middle Ages, in the course of the 8th century A.D. The Tuinster Wierde, near Leens, in the Marne region of North-west Groningen belongs to this generation.

There are also terps which began only in the Middle Ages or even later. The terp called Het Torp, south of Den Helder, is an example of such a late one and the part investigated is no older than the 11th or 12th century. Beneath this terp and separated from it by a layer of 'natural' clay traces of early medieval habitation have been observed.

Because terps of all generations began as settlements on flat marshland, they must have been established in periods in which conditions were the most favourable. The beginning of successive terp generations coincides with regression phases that divide the periods of sea activity (transgression) from one another. This is also the reason why the North-Netherlands terps fall into such sharply differentiated generations.

Thus the Pre-Roman transgression comes in between the beginning of the oldest 'Zeijen' terps and the settlements starting shortly before the beginning of the 1st century A.D. The late-Roman transgression began in the 3rd century A.D. and lasted until 700–800 A.D.; this divided the second terp generation from the third terp generation which began in the Early Middle Ages. The following transgression, the Carolingian or Ottonic, arrived soon after: beginning between 900 and 1000 A.D. Also after the beginning of the diking-in operations, the sea still made its presence felt: the Late-Medieval transgression.

Little is known so far about the *Flachsiedlung*, the initial phase of terp development. No such settlement has yet been fully excavated.

As far as the oldest Ezinge period is concerned, only one farm with a roughly east-west orientation has been excavated. It is accompanied by a few granaries and pits (storage-pits?) and is situated in a farmyard enclosed by wattlework. In view of the excentric location of this farm in relation to the later terp, it is very well possible, however, that the oldest settlement here consisted of more than one such farm unit (farm-house with outhouses in a farmyard).

The latter was also probably the case at Tritsum, while at the Feddersen Wierde *(Flachsiedlung)* it was certainly so. Unfortunately, the information regarding the oldest occupation on the site of the Feddersen Wierde is inadequate because only a small part of the *Flachsiedlung* could be excavated. This oldest of all the periods (A1 and B1) is dated to the 1st century B.C. However, also the settlements of the next periods 1A and 1B are in fact still in the *Flachsiedlung* stage. They date from about the beginning of the 1st century A.D. and consist of several farms, each with its own granary. These farm units lay isolated or sometimes in a small group within rectangular yards that were enclosed by ditches. Wattle-fences do not appear to have been used in the earliest phases of the Feddersen Wierde. The houses all have the same orientation, approximately west-east.

In the Paddepoel *Flachsiedlung*, near Groningen, which also dates from the beginning of the 1st century A.D. and which has been recently partially excavated, the presence

1 Cnossen 1958, 36.
2 Halbertsma 1955, 99.

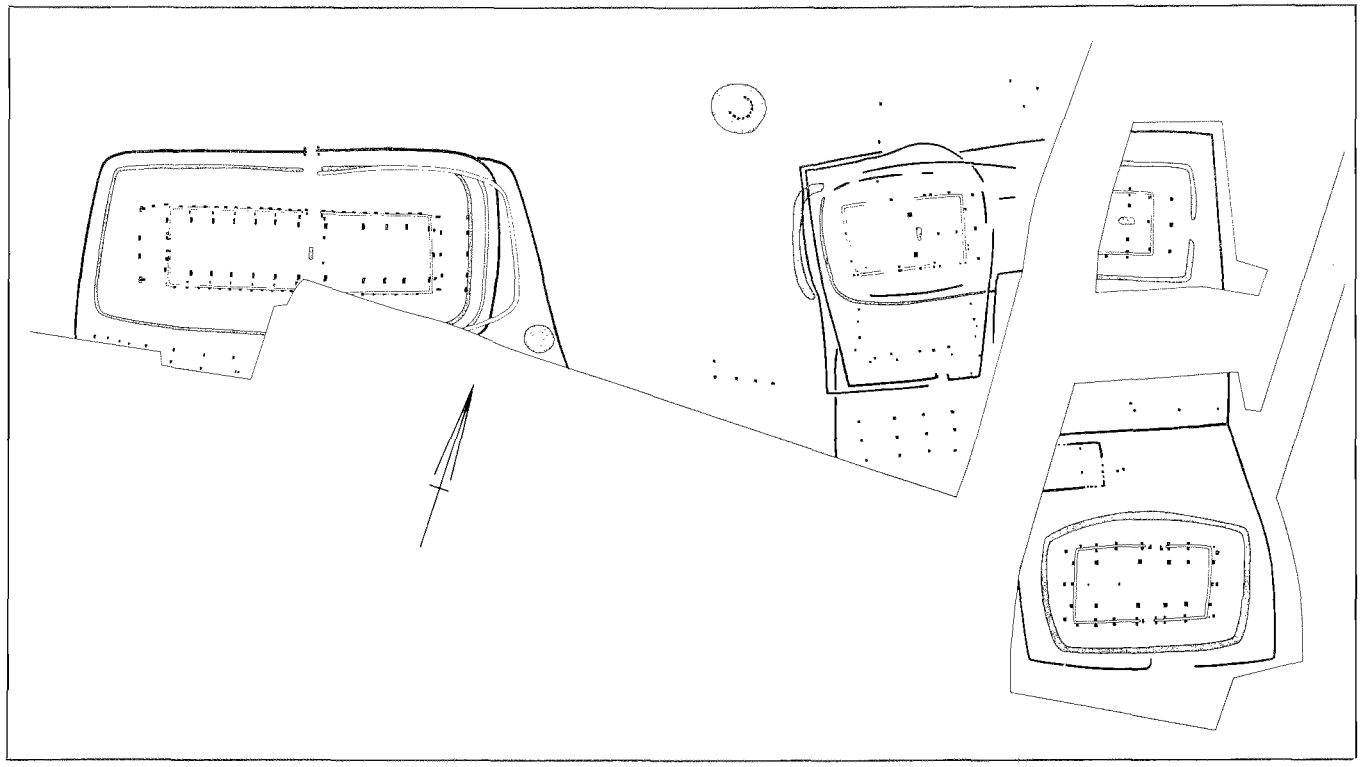

Fig. 2. Fochtelo (Friesland). Schematic plan of the settlement, around 200 A.D.

has also been established of a number of contemporary dwellings with approximately the same west-east orientation.

The oldest farmsteads in the later settlements such as Leens and Den Helder also show the west-east orientation, but very little is known about the pattern of the oldest occupation as a whole here.

It is sometimes thought that the new settlements established in the successive phases of the colonization of the clay regions, thus in the regression periods, were originally small in size and consisted of isolated farmsteads or at the most of small groups of farm units. Jemgum is an example of such a small colony-settlement dating from the early Pre-Roman Iron Age. However, it is doubtful whether the original units really were always so small. Hatsum, situated in the immediate neighbourhood of Jemgum and dating from the same period, was even then a somewhat larger settlement. Paddepoel could well have had about six houses. But the distance between the individual houses here is too big to justify speaking of a village. It is probable that a radially planned village might have come into being in the following phase but this development was arrested here as a result of the Late-Roman transgression. On the other hand, in the mid-Roman period one still finds the pattern of isolated farmsteads, in this case on the sandy ground near Fochtelo (fig. 2). Adjoining one of the two large farmsteads found, there was a close-knit group of three small farms, apparently in a subsidiary position. The farmyards of the large and small houses are enclosed individually; the yards of the small houses joined onto one another. Granaries and huts here stand in the farmyards near the main buildings; wells are found also.

The frequent use of ditches to divide the dwellings from one another is the only indication of a certain degree of adaptation of the form of settlement to the damp surroundings of the clay districts, where even in the most favourable periods occasional floods had to be taken into account. One observes no fundamental differences from the settlement pattern on sandy soil, where a uniform west-east orientation of the houses was also the dominating element. For a comparison, we refer to settlements such as Rhee and Wijster, both of which date from c. 150–450 A.D.

However, as soon as the clay-district settlement grows out of the *Flachsiedlung* stage and develops into a terp, a particular type of settlement comes into existence.
This development always followed the same line. The individual dwelling sites were gradually raised and with this raising went an expansion. In this way small terps were formed containing one or a few houses, and these gradually fused to make one large terp. From that time on all subsequent heightening affected the terp as a whole.
The course of this process can again best be seen at the Feddersen Wierde. Here, it was quite clear that a terp is not the result of random growth and haphazard accumulation of rubbish, as is the case of the tell, but of a carefully planned lay-out. Thus, the centres of the individual house terps were usually built up from carefully piled layers of dung as isolation against the damp and cold, reminiscent of the dung accumulation in the Ezinge terp of period IV dating from the last centuries B.C. That no dung was used in the construction of the Westergo terps must have been therefore the result of a definite decision. Apparently, dung could be better used for other purposes, either as fuel or fertilization of the arable. It was also used for the latter purpose at the Feddersen Wierde, according to Haarnagel[3].
The fact that the raising of the terps was carried out systematically shows that the inhabitants used terp building as a defence against the threat of floods and high water. It seems that this threat was constantly present, for this raising is not restricted to the transgression periods. A stage of individually raised dwellings follows the *Flachsiedlung* phase almost immediately. The settlement at Ezinge was raised by about 2 m by the beginning of the 1st century A.D., thus after the pre-Roman transgression, and another layer of about 2 m thick was added during the Roman period. At Feddersen Wierde the dwellings began to be raised as early as the 1st century A.D.; a fully grown terp had evolved from it by Period IV (2nd/3rd century A.D.).
The round, streamlined shape of most of the terps was the most practical one in a region regularly disturbed by high floods. It is remarkable that the attempt to build a round enclosed village was already noticeable at the Feddersen Wierde at the very beginning of the phase of the raised house terps. To the left and right of the approximately west-east oriented house terps, which are the continuation of the original *Flachsiedlung* and preserve the old orientation, new dwellings were added in such a way as to form a circle around an open space. The original nucleus remained not only the main feature of the village but formed the social centre for many centuries to come. In this part of the village lived the headman and here the public meeting-place was established – the 'village hall'. By this agglomeration of individual house terps a radial village came into existence at the Feddersen Wierde in about the middle of the Roman period; after this time this village type remained in use there. At Ezinge already before the beginning of the 1st century A.D., in period IV, the radial pattern was in full use. In these radial villages the houses lie in one or more concentric circles around an open space in the middle, which was probably used as the market-square and village green. At a later date the church would be built on this site. The houses were built with the living-quarters nearest the village green and the byres, with the door in the short end-wall, facing outwards. The farmyards containing the farmstead and adjacent outhouses were mostly enclosed with wattle hurdles. Radial paths ran from the centre to the perimeter.
This characteristic enclosed form of the terp settlement so well-suited to the natural environment, has been preserved intact here and there in the clay regions of the Netherlands. A good example is to be found at Biesum near Delfzijl (fig. 3). It is probable that the road or path which nowadays encircles the foot of the terps and is often bordered on the outside by radial fields, the so-called *velgen*, existed from early times.
Thus every terp has evolved through the stage of the individually raised dwelling-sites from a *Flachsiedlung*, but not every *Flachsiedlung* has developed into a terp.
The frustrated *Flachsiedlungen* found in the Northern Dutch clay regions especially belong to the Roman period. Up to the present, older ones have not been found in this country, but Jemgum, just over the German frontier in the Ems estuary, is a good example of a marsh settlement belonging to the oldest Zeijen generation, which did not develop into a terp. On the other hand, we have find-spots of *Kugeltopf* pottery which represent a younger group of deserted *Flachsiedlungen* dating to the Middle Ages. However, these must be excluded from our survey.
The settlements abandoned in the Roman period form an interesting problem which, however, has received remarkably little attention hitherto. The distribution of these settlements silted over during the 3rd century, which had mostly reached the individually raised dwelling-site stage at the time of inundation, is extremely characteristic. They are found predominantly in the marginal zones of the old salt-marshes. They appear in the transition area between clay and peat from Sneek via Irnsum, Wartena, Miedum, Wirdum, Grijpskerk, Paddepoel and Noorder Hogebrug near

3 Haarnagel 1961, 47.

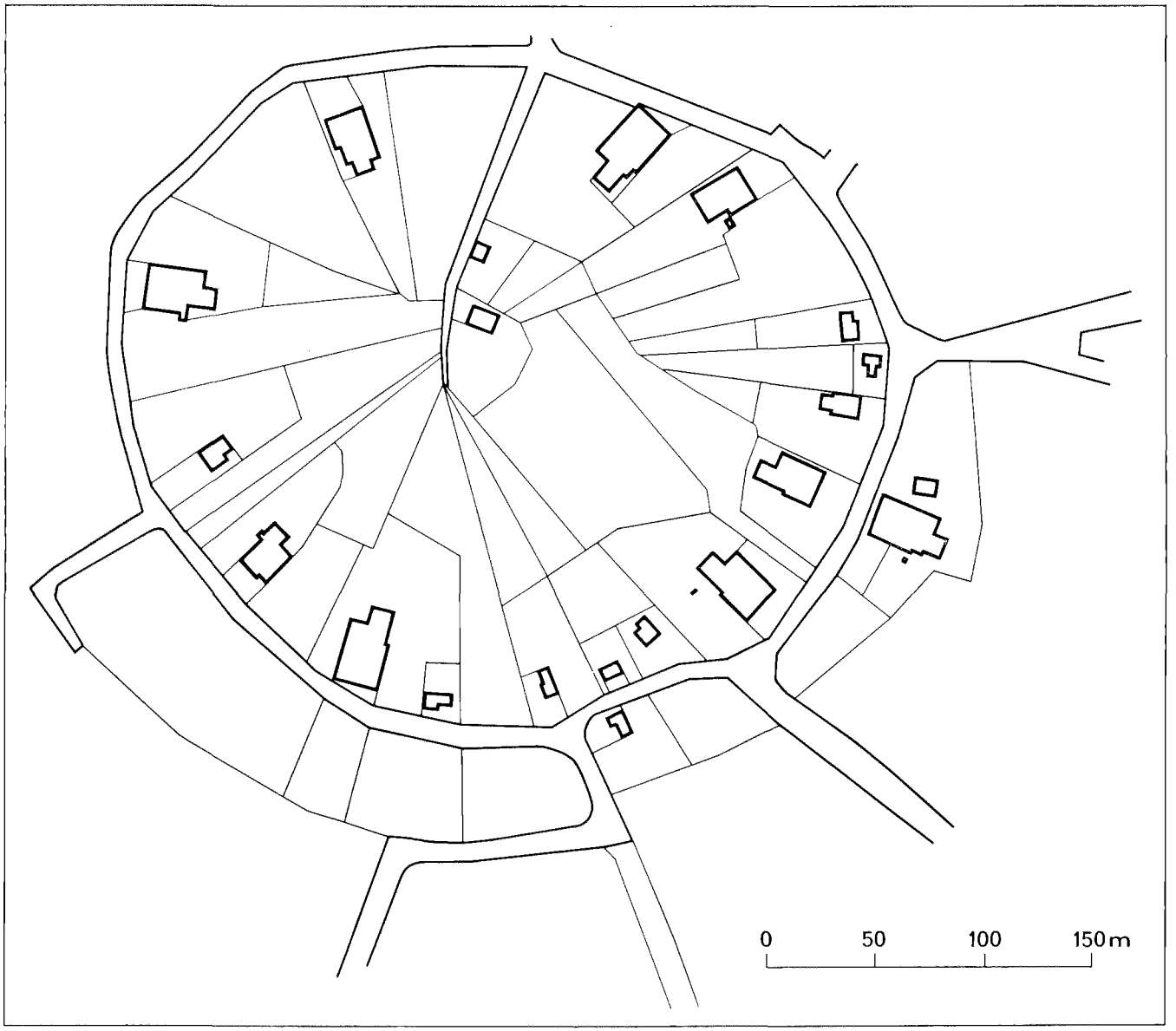

Fig. 3. Biesum (Groningen). Existing field patterns on the terp

Groningen, Zuidwolde, Bedum, Ten Boer, Overschild and Amsweer to along the southern bank of the Ems. In the Frisian area they are often situated on the thin clay-layer deposited on the peat during the pre-Roman transgression. At Paddepoel the settlement was erected on a thick clay-layer, on top of which a clear vegetation horizon had developed.
Thus in Friesland the settlements silted over in the Roman period are encountered generally in regions which were included later in the sphere of influence of the Middle Sea. It is now no longer possible to know how far the sea in this period had already progressed in widening the mouth of the Boorne into an estuary, but it is clear that the influence of the Late-Roman transgression made itself felt particularly here in the already existing depression. But, on the other hand, the occupation of the Lage Midden was not completely obliterated. There are indications that several terps which had begun their life in or shortly before the Roman period did continue to exist.

In summing up this section we can say that at the beginning of the Roman period two types of settlement were inhabited in the Frisian clay regions. On the oldest parts of the salt-marshes of Westergo and Oostergo the first generation settlements were found, which at the beginning of the 1st century A.D. had already developed into radially planned terp villages. Already these terps had reached a certain height (2 m at Ezinge) and during the period in question were raised even higher. Beside them a second generation had come into existence a short time before. At the beginning of the Roman period the settlements of this generation were in the phase of the *Flachsiedlung* and individually raised dwelling-sites. Most of them will have gradually developed into terps, and it is now quite impossible to distinguish between them and older or younger terps.
However, in certain regions, particularly in the marginal zones, this development came to a halt in many cases at the beginning of the Late-Roman period.
When Pliny visited the land of the Chauks in 47 A.D., he found apparently the same situation in the North-German coastal area. The term he uses 'tumuli alti' (high artificial hills) seems to refer to terps of the oldest generation; the 'tribunalia manibus exstructa' (platforms built by hand) must have been the individually raised dwelling-sites, which indeed looked like elongated platforms.[4]

4 Plinius, *Naturalis Historia* XVI, 2–5.

(b) *The Dwelling*
Complete house-plans have not yet been found in the Frisian clay region. Tritsum did not produce a single one; a ground-plan excavated recently near Wartena has not yet been published. But five ground-plans have come to light on the sandy soil in the extreme east of the province near Fochtelo (fig. 2). Considering the great similarity in the material culture along the entire south coast of the North Sea, there is no reason why we should not also include in our discussion houses found elsewhere, for example, those at Ezinge and the Feddersen Wierde.
The house form existing during the Roman period in the coastal region is the three-aisled *Hallenhaus*, a type of farmhouse that combined living quarters and byre under one roof. The three-aisled form results from the roof construction. The weight of the roof is carried for the most part by two rows of roof-posts running parallel to the long axis and standing pairs opposite one another.
In the byre section cattle-stalls occupied both side aisles; the middle aisle or nave, generally paved with sods, was the gangway with a drain and foot board on either side. The cattle stood in pairs, heads to the wall in stalls which were separated by wattle-work partitions hung between the roof-posts and the wall. The byre usually had its own door in the narrow end-wall.
The living quarters and byre are often, but not always, divided by a partition. The functional division of the house in the Roman period is always shown by the presence of a pair of entrances placed opposite each other in the middle of the long walls. Thus living space and byre are of approximately equal length.
Another characteristic of the three-aisled house of this period in the coastal region is that the differentiation of the living quarters is apparent from the disposition of the roof-posts. While in the stalls the intervals between the pairs of roof-posts remain approximately the same, in the living space there is one interval of double width. In the middle lay the hearth; thus this area was the real living-room. In larger houses, in front of this double interval, there are furthermore one or two pairs of roof-posts with normal intervals. This area was probably the sleeping quarters.
The roof-posts were thus the most important structural element. The end of the roof rested on lighter posts which in Roman-period houses were incorporated into the walls themselves. Along the inside of these posts ran the wall-screen which was usually made of wattle-work. In the clay districts a bank of sods was very often placed along the outside of the wall as isolation against the damp and cold.
We will not go further into the many problems involved in

the reconstruction of the roof. The thatched roof bevelled at both ends was probably not very steep. There were no indications anywhere of storage of crops within the farm-houses. On the contrary, the granaries were situated beside the houses.

The length is the only measurement showing any marked variation. Next to short houses of not much than 10 m long, there are others of more than 30 m long. The width remains more constant and varies between 5 and 6 to 7 m; the width was undoubtedly limited by the method of the roof-construction. The large farmstead II at Fochtelo (fig. 2) is a magnificent example of the type described above.

The three-aisled *Hallenhäuser* are rooted in a tradition that goes back as far as the Late Bronze Age, as was recently demonstrated at Elp and Angelslo. Originally the type was spread over a large area. In the course of the centuries many changes took place at different points (wall construction, disposition of the interior) and it is often impossible to distinguish between regional developments and a real evolution in the type itself.

Several features have been mentioned (central entrances, double roof-post interval in the living space, posts carrying the end of the roof incorporated into the wall) which are characteristic for the three-aisled farm-houses in the coastal regions during the Roman period. The main construction (pairs of roof-posts) had, however, remained unchanged in principle. This basic principle continues to be used in exactly the same way until the Early Middle Ages and later particularly along the North Sea coast; this is shown, for example, by the groundplans at Leens and Hessens, and the 12th century houses which have been recently found near Velsen and Den Helder. The long life of this three-aisled roof-post house in the coastal regions seems to be exceptional. Other types occur in the Middle Ages in inland regions and there are indications that the differentiation between coastal and inland types goes back as early as the Roman period. Be that as it may, Late-Roman houseplans were found in Drenthe and Westphalia which are certainly based on the old scheme of the *Hallenhaus*, but show, in addition to the traditional roof-post construction, a completely new building construction particularly in the living space: the so-called cruck-construction. Up to the present, cruck houses from the Roman period have not been found in the terp region, but as yet we lack the necessary data to be able to use this negative evidence with full confidence. The situation described repeats itself indeed during the Early Middle Ages. House-plans like those found at Warendorf occur as far as Drenthe (Odoorn, Sleen), but not yet in the terp region. They do appear, however, further up the coast near Rijnsburg.

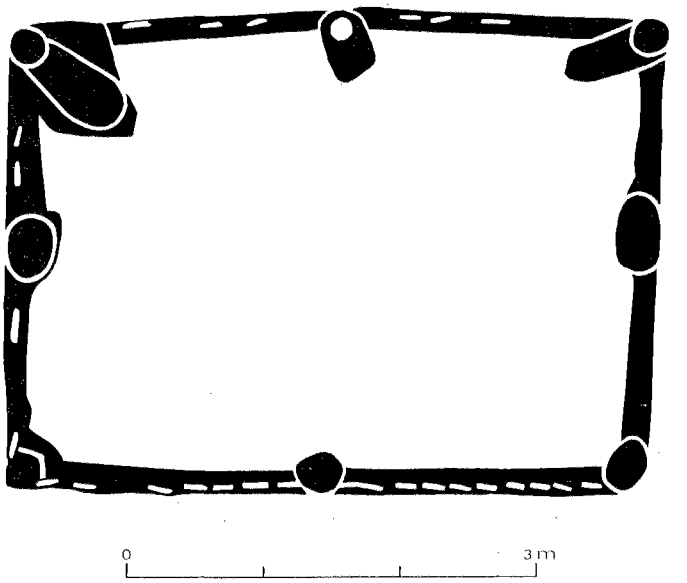

Fig. 4. Wijster (Drente). Sunken hut of six-post type

The outhouses that adjoined the farm buildings have already been mentioned. These are granaries with varying shapes: simple square constructions with four posts, or rectangular ones with six or more posts. In addition, there are the small rectangular huts dug into the ground, the so-called sunken huts. These, particularly those in the clay regions, are often simple constructions: a saddle-roof resting on two posts over a hollow in the ground which was surrounded by an earthen wall. Besides these, more carefully constructed huts were found especially in the sand regions (fig. 4). In these, a wooden wall consisting of wicker-work or vertical planks was placed, usually in a shallow foundation-trench, against the sides of a rectangular pit generally measuring about 2 x 3 m. Posts at the corners supported the walls and two posts in the middle of the short sides carried the ridge-pole of the saddle-roof which projected above the ground. The end of the roof rested on the wall which was reinforced by a bank made from the earth dug out of the pit. The door was situated to one side of the middle of a short wall. Inside the house a hearth was often present. Similar huts occur in the North Netherlands from the 2nd century onwards at least and have been found in Friesland at Fochtelo; the excavation at Tritsum produced a large number and Boeles reports sunken huts from Ferwerd. For a long time these small huts were considered to be real dwellings and have been attributed specifically to Anglo-Saxon immigrants. In the light of later discoveries, this opinion can no longer be

defended. They were outhouses and functioned among other things as bakeries and weaving huts.

Selected Bibliography

Boeles 1951; Bantelmann 1955; Van Es 1965, 1967; Van Giffen 1936, 1936–40, 1940, 1954; Haarnagel 1950, 1956, 1957a, 1957b, 1958, 1961, 1963, 1965; Halbertsma 1960–1, 1963; Hinz 1964; Reinhardt 1965; Waterbolk 1959, 1961, 1964; Winkelmann 1958.

(c) *The Pottery*

Pottery tends to play a most important role in archeological accounts, but here it only takes a subsidiary place. The reason for this is that till now, at least in Friesland, we have had only stray finds to work on. In order to obtain better insight into the development of the forms and range of types current in the Roman period, it is necessary to possess a careful analysis of a large and well-stratified find-complex. In this respect much is expected of the analysis of the material found in the terp at Tritsum. In general it can be said that the pottery found in Friesland forms part of an extensive pottery province which stretches along the North Sea coast from the estuary of the Elbe to the mouth of the Rhine at least. Further inland, certainly as far as our own country is concerned, the boundaries of this pottery province are at present less easy to define.

We have now at our disposal Schmid's recent study of the Roman-period pottery found in the coastal zone between the Ems and Elbe. However, Schmid's conclusions cannot be applied arbitrarily to Friesland. Regional differences can be observed along the coast within the great pottery province.

Thus it appears that in the North-west German coastal area there were differences between the pottery east and west of the Weser, and it is already in itself more than likely that a development of specific regional character also took place in Friesland within the framework of the extensive pottery province. This would fit in with the particular tradition which had begun in the previous period with the geometric decoration on the Ruinen-Wommels pottery found in Friesland.

From evidence in North-west Germany and also in Wijster in Drenthe it has been established that a complete household dinner service in the Roman period consisted of the following items: big bucket-shaped storage-pots, wide-mouthed tureenlike pots, a more or less low model with an S-shaped profile, tall slender narrow-mouthed pots, earthenware situlas (Schmid's *Trichterschalen, Trichternäpfe, Trichterpokale*), bowls, cups, dishes and plates. The narrow-mouthed pots and situlas are the most characteristic forms and also the ones most affected by evolution. During the first half of the 3rd century these forms can be seen to change their profile from an angular to a more flowing one, which phenomenon, as far as the native culture is concerned, indicates the transition from the Early- to the Late-Roman period.

There is sufficient reason to assume that the different types were also present in Friesland. There, too, the starting point for the above mentioned models was provided by the domestic crockery service from the pre-Roman Iron Age, which contained bowls, plates, Harpstedt-like buckets and more or less tall tureenlike forms.

The tureen forms from the beginning of the Roman period must be looked for in the so-called *streepband* pottery. It is wise perhaps to say at the outset that the dating of this pottery is still rather vague. It certainly appeared before the beginning of the Roman period, but it is not possible to say exactly when it occurred for the first time: as early as the 2nd century B.C.? It is still present at the beginning of the 1st century A.D., but it is not completely clear how long it lasted into the Roman period: as late as the 2nd century A.D.? It should also be said that '*streepband* pottery' is, in a certain sense, a very loose term. The term is taken from the ornament (one, two or three grooves around the base of the neck) and does not refer to any clearly definable form. A fairly wide variety of types share this ornament[5]. Beside the wide-mouthed low and broad tureen forms appear globular narrow-mouthed pots; even remarkably tall models, albeit wide-mouthed, were discovered[6]. Apart from the ornament, these pots also have the S-shaped profile in common; the rim may be slightly pulled out to form a lip and flattened on the upper surface, but it is not noticeably thickened. The pots may be without handles; others have one handle, a continuation of a Ruinen-Wommels tradition; others again have two handles rising from the rim.

The types decorated with grooves probably formed only a part of the complete service that was popular in the period concerned i.e. in the time shortly before and after the beginning of the 1st century. The other possible types in use at the same time will be discussed later. Here, we merely wish to establish the fact that narrow- and wide-mouthed, tall and short forms occur at the same time within the *streepband* group, trends already known from the immediately preceding Zeijen culture when all types were also present

5 See *e.g.* Halbertsma 1948–53, afb. 66a; Waterbolk 1962, Abb. 33.

6 Waterbolk 1962, Abb. 33: 7.

together, for example, in the gravefield at Ruinen. As such the *streepband* pots are eligible for consideration as the starting-point for two forms: the more or less tall wide-mouthed tureen and the tall slender narrow-mouthed pots, which rather later in the Roman period in Friesland occur as distinctly different types.

With this we arrive at what Boeles has called the Frisian '*orenpotten*', 'pot with ears' or handles. The evolution of these ear-pots, which would have existed during the whole of the Roman period, is conceived as follows: in the course of the Early-Roman period, probably as soon as the 1st century, the pots lose their grooves (it is indeed doubtful whether the ornament, even in the *streepband* period, was always obligatory); it became the habit to add two handles at the rim, according to Boeles the rims became 'faceted and thickened', the forms showed the tendency to become gradually taller until in the 3rd century they had turned into very slender narrow-mouthed pots, usually with characteristic handles drawn out into a point[7].

Such a development is a possibility but the concrete evidence has not yet been produced. There can be general agreement regarding the starting-point (the *streepband* pots) but the impression at present is that so many variations already existed in the *streepband* period (low pots side by side with globular ones, tall wide-mouthed types beside narrow-mouthed ones) that in the 2nd and 3rd centuries the same varieties could very well have existed together and not the one replacing the other. Boeles's plate 25: 7 and 11 are really an illustration of this proposition: a decidedly wide-mouthed pot and a typical slender narrow-mouthed pot both have identical pointed handles. The dating of the latter form to the 3rd century rests on one piece of evidence, namely, the association of a footed-cup (situla), which also in our opinion belongs to the 3rd century, with a narrow-mouthed slender pot without handles (fig. 5). Incidentally, this is not the only example of an 'earless ear-pot'.

Our view on this matter at present can be summarized as follows: certainly well into the 3rd century the dinner service in Friesland consisted among other items of: wide-mouthed tureens, narrow-mouthed globular pots and narrow-mouthed slender models, all having an S-shaped profile and relatively short neck, which are the continuation of *streepband* types.

The whole question is important in deciding whether or not there was a native Frisian pottery development. It is assumed, namely, that the centre of the distribution area of *streepband* pottery was at Westergo. From there it spread out along the coast to the west over the province of Noord-Holland and to the east to the Weser; it is even represented in the Feddersen Wierde by a few sherds. The same seems to apply to the so-called 'ear-pots' of the following developmental phase. According to Halbertsma the pointed handles (3rd century?) did not even occur east of the Lauwers[8].

As has been said, a narrow-mouthed slender pot continues to be part of the dinner service in the German coastal area.

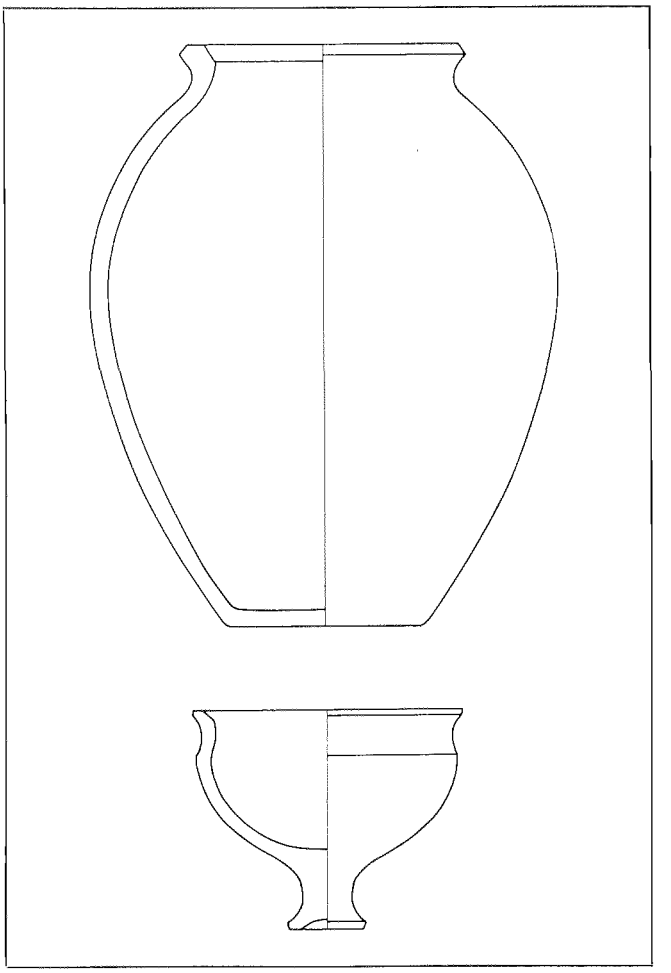

Fig. 5. Kubaard (Friesland). Slender narrow-mouthed pot and situla, found together. 3rd century A.D. Scale 1:4

7 *E.g.* Boeles 1951, pl. 25:9, 11; Halbertsma 1948–53, afb. 66c: right.

8 Halbertsma 1948–53, 249–50.

This pot goes through various evolutionary stages which are included under the term 'Westerwanna' type. This type is not directly comparable with the slender pot met with in Friesland.
The development stage of about 200 A.D. still shows an angular profiled model with a fairly long straight sharply set-off neck; two handles may be present, but these are not set against the rim but on the shoulder. This model is called the Eddelaker pot after Eddelak, north of the mouth of the Elbe, where characteristic specimens were found. In the 3rd century the neck profile of this pot becomes more fluent: the neck is no longer set-off so sharply and it acquires a curved form. At the end of the series in the 4th century, we have the narrow-mouthed Anglo-Saxon pots with cylindrical neck.
Certain differences are immediately obvious when the above-described Frisian narrow-mouthed pots are compared with the approximately contemporaneous stages of the Westerwanna type, *i.e.* the Eddelak stage and the subsequent stage of the 3rd century: the neck of the first pot is shorter, the position and especially the shape of the handles is different.
We saw that the narrow-mouthed pots in Friesland in the 2nd and 3rd century can be traced back to the *streepband* pottery, which had probably originated in Westergo. It is then an also obvious assumption that the later forms are typical Frisian developments as well. They are, as it were, Friesland's answer to the want felt throughout the coastal region for a tall narrow-mouthed pot.
As far as we can judge, the distribution of the 2nd and 3rd century forms of the Westerwanna type supports this view. Eddelak pots and their successors in the 3rd century occur from the Eider to Ezinge[9] and Drenthe. There are also a few rare examples in the province of Friesland. Eddelak profiles are known at Sneek[10]. Boeles illustrates an Eddelak pot from Jelsum and calls it a 'highly unusual, extraordinary, at present a unique form'[11]. He records also sherds with pointed elongated rims belonging to this category from Driesum and speaks of similar sherds in milled-rim pottery[12]. A wonderfully complete 3rd-century Westerwanna pot was found at Hoogebeintum (fig. 6).
The find-spots of Eddelak pottery in Friesland are thus few in number and none lie in Westergo. Although this may partly be due to the chance of discovery and the incompleteness of our present day evidence, it does indicate nevertheless that Westergo still possessed an individual pottery tradition in the Roman period. Yet more indications lead to the same conclusion.

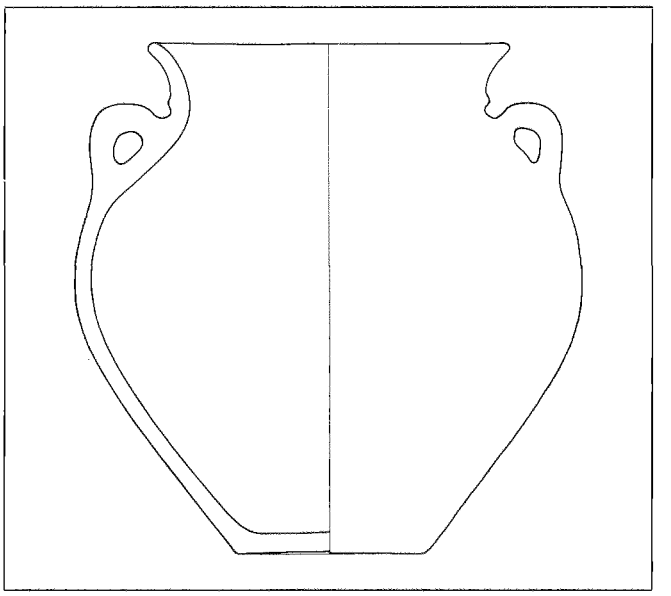

Fig. 6. Hoogebeintum (Friesland). Pot of Westerwanna type. 3rd century A.D. Scale 1:4

Thus, during the *streepband* period, short, thickened, faceted rims occur in the German coastal region, particularly east of the Weser but also still to the west of it into the province of Groningen, which are clearly differentiated from the thickened, flattened rims occurring in Friesland. These faceted rims are found on tureen forms and further on (footed) cups which are to be regarded as the forerunners of the 2nd century and later *Trichterschalen, -Näpfe* and *-Pokale* (situlas)[13]. As has been said, these pottery types and rim forms are found in Groningen but none are (yet) known to occur in Friesland. Indeed, the situla forms of the 2nd and early 3rd century also appear to have only a limited distribution in Friesland. They are found at Sneek[14] and especially in Fochtelo[15]; one example comes from Ferwerd in Oostergo (fig. 7). Situlas found further to the east in Ezinge are identical with examples from the Tofting terp, north of the mouth of the Elbe, but we do not

9 See Boeles 1951, fig. 20: 100.
10 Elzinga 1962, fig. 6: 60; 8: 60.
11 Boeles 1951, pl. 25: 1.
12 Boeles 1951, 182.
13 *E.g.* Schmid 1965, T. 1.
14 Elzinga 1962, fig. 7: 60.
15 Van Giffen 1954, afb. 9: 20 l.

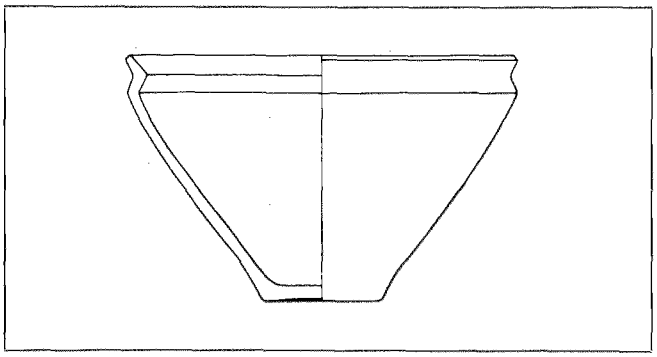

Fig. 7. Ferwerd (Friesland). Situla. Around 200 A.D.

know of a single one from Westergo. These forms still have an angular profile with a sharp division between neck and shoulder. On the other hand the subsequent development stage in which the profile becomes more flowing and neck and shoulder are fused into one is represented in Friesland and also in Westergo[16] though the high-stemmed foot *(Stengelfuss)* seems for the time being to be a specifically Frisian characteristic.

The types discussed so far are mostly of careful workmanship. The wall is completely or partially smooth (the lower part may be roughened) and the pottery is relatively thin and well-fired. One often gets the impression that these pots are no longer home-made but the work of craftsmen.

In addition, coarse types belonged to the dinner service of the Roman period in Friesland. These are big bucket-shaped storage-pots wich, as appears from the form, the coarse roughened lower part and the decoration of 'fingertip' impressions against the rim, continue the Harpstedt tradition.[17] Smaller bucket models of the same manufacture occur also[18] while moreover more globular models with milled rims and roughened lower part appear; as far as the form is concerned the latter are related to the 'ear-pots'[19]. The mingling of the traditions of the rough-walled and smooth-walled pottery, both of which were handed down from the Pre-Roman Iron Age, is moreover evident from the occasional appearance of a milled rim on an otherwise characteristic 'ear-pot'[20].

16 *E.g.* Boeles 1951, pl. 25: 8, 10.

17 *E.g.* Boeles 1951, pl. 24:8; Elzinga 1962, fig. 5:9; Van Giffen 1954, afb. 9: 6.

18 *E.g.* Boeles 1951, pl. 24: 10, 11.

19 *E.g.* Boeles 1951, pl. 24: 13, 15.

20 Halbertsma 1948–53, afb. 66b: left.

Simple roughened globular bowls with a more or less turned-in rim are recorded from Tritsum; shallower cups and dish forms will surely also have been present in Friesland. There was probably very little change in the form of these simpler types.

Thus we see that the domestic crockery service used in Friesland during the Roman period contained vessels of various forms. Moreover, there are indications that also in this period in Westergo a certain degree of independence continued to exist as fars as the pottery development is concerned.

It may already be pointed out here that it is exactly in the province of Friesland that prototypes of a few of the most characteristic Anglo-Saxon types either do not occur or are very rare.

Selected Bibliography

Boeles 1951; Elzinga 1962; Van Es 1967; Halbertsma 1948–53; Schmid 1965; Waterbolk 1962.

(d) *Everyday Life*

Many perishable objects have been preserved in the terps, objects which elsewhere were lost because the conditions were unfavourable for their preservation. In this way a remarkably clear picture emerges of the everyday life on the terps, or rather of the objects surrounding the inhabitants of the clay districts in their daily life. We shall not give a detailed description of these objects, of the wooden spades with which the terps were built, of the bone implements, combs, jewellery, amulets, *etc.*, but refer the reader to the famous book by Boeles, to the special study made by Anne Roes and particularly to the archeological exhibits in the museums of Leeuwarden and Groningen.

One of the remarkable things about terp archeology is that it offers so many opportunities of reconstructing the daily life of the inhabitants but has so little to say about what happened after death. The only skeleton finds which can be dated with any certainty to the Late-Roman period are those from Drieterpen.[21] Certainly we cannot exclude the possibility that inhumation was practised; this could then be considered as a continuation of the inhumation tradition from the Pre-Roman Iron Age (crouching skeletons). The almost total absence of grave-finds leads us to think, however, that cremation was the usual method followed. In this connection we must think of extremely simple small graves containing very meagre fragments of objects burnt with

21 Boeles 1951, 179.

the corpse on the funeral pyre. Such '*Brandgruben*' are found in the sand regions of North-west Germany, among other places. In Drenthe, a few Late-Roman cremation graves were encountered near Wijster in the western part of the Looveen cemetery. It goes without saying that such a grave-type in the clay region, both within and outside the terps, could easily escape discovery. Also in view of the traditions of the previous period, there is every reason to suppose that cremation was the custom in Roman times. It would link up very well with the late-urnfield tradition of the Zeijen culture. Real urn-burials at that time were already unusual nor did they occur in the North Netherlands in the Roman period. They appear again only at the end of the Roman period as an influence coming from the Weser-Elbe region. The fact that cemeteries are again known from the Migration period and from the Early Middle Ages, because by then urn-burials and inhumation were customary, also confirms the above hypothesis.

The basis of day-to-day life was farming, as is at once clear from the form of dwelling-site and dwelling. Stock-breeding played the most important role in clay-district farming; this is indicated by the great quantity of cattle-dung found in the terps (which is, however, not the case in those of Westergo), and also by the disposition and form of the dwelling itself. The byre, which usually took up more than half the floor space, had room for twenty or more cows.
The analysis of the Tritsum material will undoubtedly provide further information regarding the composition of the Frisian live-stock in the Roman period. Recent information from Sneek and North Germany shows the following picture: cattle outnumbered all other farm animals. The stock consisted further of sheep, goats, pigs and horses. There were several kinds of dogs; cats and hens were new-comers in Roman times. Wild animals were only found occasionally. In other words, hunting was no longer so important. The cattle, horses and pigs were decidedly smaller than nowadays; the sheep found at Tofting were big. Apart from their meat, the animals produced important raw materials, such as hides, wool and bone.
Since the publication of Van der Poel's study there can no longer be any doubt that agriculture was practised alongside stock-farming in the clay regions during Roman times. Several sorts of crops were found in the terps, *i.a.* barley (a grain fairly resistant to salt), flax, beans and possibly oats. The publication of the botanical research of the Feddersen Wierde, which because of its completely maritime environment is directly comparable with the North Netherlands terps, will in due course give a more detailed account.
At Tofting and Jemgum the indications that agriculture was practised were very positive. Both settlements, dating from the Roman period and pre-Roman Iron Age respectively, lay, however, in a fresh-water river-clay district. Crop cultivation took place partly on the terp itself. The expansion of the Ezinge terp since the 4th century is indeed explained by the need for arable on higher ground. But agriculture was also carried on outside the terp at the same time, as appears from the plough-marks discovered in the North-German clay regions.
Practically nothing is known about the extent of the arable and the field system. Reinhardt found that the so-called 'irregular blockfields' were the oldest form of field system in Ostfriesland, though he was unable to prove that this method of land allotment goes back to the Roman period. The irregularity of the land strips is due to the use, as far as possible, of natural watercourses as plot boundaries.
In the neighbourhood of Sneek a system dating from the beginning of the 1st century has been discovered, which consists of ditches cut through the peat. They are explained as traces of an old peat industry. However, Van der Poel also records ditches that drained the peat-bog for the purposes of agriculture.[22]
At various places in the North Netherlands and North Germany clay regions, ditch systems are encountered serving as boundary divisions and drainage for the arable. From the examples enumerated by Müller-Wille,[23] we refer to those at Tofting and the the Feddersen Wierde. At Tofting it concerns small arable plots of only 1.5 to 2.5 m broad. At Paddepoel a small complex of narrow plots surrounded by ditches came to light under occupation traces. However, we lack positive indications that these were indeed small arable plots. A comparable 'vegetable garden' consisting of three narrow plots divided by ditches was discovered in the Wijster settlement. Spade-marks leave no doubt as to the use of the ground here.
Botanical research caried out by Van Zeist confirmed that in this village on the sandy soil of Drenthe agriculture was also one of the means of subsistence. In addition the inhabitants here practised stock-farming. According to Clason, the stock consisted mainly of cattle and horses; pigs are only poorly represented among the scanty skeletal material and sheep bones are not found at all, but this does not imply that these animals were not kept. They must, however, have been very few in number.
Keuning gives plausible evidence showing that farming in-

22 Van der Poel 1960–1, 178.
23 Müller–Wille 1965, 34–5.

dustry methods in the sand regions did not yet differ basically from those in the clay regions.[24] In both areas mixed farming was the basis of community life. At the present moment it is still utterly impossible to asses the relative importance of the two aspects of the industry. It is generally accepted that on both sand and clay the accent lay clearly on stock-farming.

Fishing also played a role in the everyday life of the terp-dwellers, perhaps not everywhere but certainly in the districts near the coast and the rivers. Pliny records fishing as the main occupation of the Chauks.[25] However, this text does not give an exact picture of everyday life of the average terp: the Chauks would not have had any cattle! The famous Hludana stone, found in the Beetgum terp, might be proof of the importance of the fishing industry in Frisian waters if it was certain that this monument had not come secondarily to Beetgum. It is a votive altar erected for the use of Q. Valerius Secundus by the tenants holding the fishing rights and dedicated to the goddess Hludana, also known in the region of lower Rhine. If one agrees with Boeles's view that the monument was indeed originally erected at Beetgum, then it pleads for the existence of a kind of trading station used by professional Roman fishermen in a Frisian area which at the end of the 1st century, the period in which the inscription is dated, certainly did not belong to the Roman Empire. In that case, it would also be perfectly logical for fish to be exported to Roman territory from Friesland. The former location of Beetgum on the coast might be taken to confirm this view. However, in view of the far-reaching consequences of such a theory, we hesitate to accept it without further proof. It is, after all, also possible that the altar had been erected originally somewhere on the lower Rhine and from there, no one knows how, had come to Friesland perhaps already in the Roman period.

There were many contacts with the Roman Empire. This is perfectly clear from the Roman imports preserved in Frisian soil. The most conspicuous categories of imports are: coins, several kinds of pottery, such as terra sigillata, black-varnished ware, terra nigra-like and rough-walled pottery, and further such bronze objects as fibulae, bronze vessels and statuettes of the gods. There may have been many more imported articles, and one thinks of such things as glass, *e.g.* beads and vessels, although it is still rarely found in the terp region, or of more perishable goods which leave no traces for the archeologist.

Most of the objects mentioned above date from the period between the last quarter of the 1st century and the middle of the 3rd, and the consensus of opinion is that the greatest part of them reached Friesland by way of trade. The trade with Friesland was only part of a far greater complex. We must be content here to refer the reader to a recent study by Eggers for a review of the whole Roman export to Free Germany.[26] Friesland could profit from this trade in particular because of her favourable position on the water-route which connected the lower Rhine to Scandinavia via the Utrecht Vecht, Flevo lake and the Wadden Sea.

In those days the water-routes were the only reliable routes to and from the terp regions and thus trade with the Roman Empire leads us to suppose that there must have been a shipping industry. The Romans themselves were not enthusiastic sailors; at the most can one expect to find interest for seafaring among the natives of the north-western part of the Empire. We take it then that shipping was mostly in the hands of the inhabitants of the North-Netherlands coast itself. Although no details are known, there are certain indications that this was so.

In the forties, the Roman general Corbulo had to take action against the pirate Chauks who were plundering the province Belgica[27]. The Chauks, who lived under completely comparable conditions as their western neighbours, the Frisians, had sea-going ships even then, at least ships with which they could reach the mouth of the Rhine from North Germany. We may expect the same to hold for the Frisians in their richly-watered clay region. The ships could not have been very impressive: Tacitus speaks of 'light craft', and Pliny goes even further and speaks of 'hollowed-out tree-trunks', which incidentally sometimes carried thirty seamen on board.[28] According to De Boone those Franks, who were outstandingly good sailors, might have come from the North-Netherlands coastal region in the Late-Roman period. The migration of the Anglo-Saxons shows how seaminded the coastal peoples were, and there can be no doubt that the Frisians conducted a sea-trade in the Early Middle Ages. Slicher van Bath points out that shipping, commerce and farming remained closely connected; he speaks of 'peasant shipping'.[29]

24 Keuning 1953.
25 Plinius, *Naturalis Historia* XVI, 2–4.
26 Eggers 1951.
27 Tacitus, *Annales* XI, 18.
28 Plinius, *Naturalis Historia* XVI, 203.
29 Slicher van Bath 1965, 105.

What had Friesland to offer the Romans in return? No durable goods that can remain preserved in the ground, but consumer goods. Cattle and hides in particular come in for consideration. During the short time at the beginning of the 1st century when the Frisians had to pay tribute they paid it in hides. This is one of Friesland's most important exports later also, and it accords with the observations made about the dominance of stock-farming. Perhaps the export of linen and wool also played a certain role, although sheep-farming does not seem to have been very important so early. Another note from Pliny can be cited in this connection, about the quality of goose-feathers from Germany[30]. The possibility of the export of fish has already been discussed, and there was probably much more: dairy-produce, bone implements etc.
Everything indicates that this trade with the Roman Empire was part and parcel of the everyday life of the terp-dwellers. Along with this foreign trade there must have certainly been a more local trade, but this, however, has left no archeological traces behind.

Various crafts were practised. As in other cases, the archeological picture here is strongly influenced by the chance of discovery and is certainly incomplete.
Apart from home industries such as butter-and-cheese making, corn-milling, pottery manufacture, possibly also spinning and weaving, particular operations required a certain degree of specialization. The clearest example of this up to now has been shown in the Feddersen Wierde. Fragments of wooden constructions show great technical skill. Not everyone was capable of building his own farmstead. In the Feddersen Wierde the workshop of a wood-turner was found; similar depots of wooden bowls are also known in the North Netherlands (Wijster and Paddepoel). Finds of incomplete spoked-wheels (Wijster) indicate the cartwrights. In the Feddersen Wierde bone depots, the raw material for the manufacture of bone implements, were found associated especially with the small houses in the middle of the village. There, thus, lived the people who possessed only a small number of cattle and apparently earned their living mainly by practising a craft. We mention in this connection also a small depot of a comb maker from Westeremden in the Groningen Museum[31]. In the Feddersen Wierde, the metal-working industry was concentrated in the farmyard of the headman of the village. Germanic shoe models indicate a leather-working industry.
Just as in the case of the trader, there will not have been a fundamental difference between craftsman and farmer. But a certain amount of specialization and division of work may be assumed.

The main elements of the everyday life of the community, or its economy to give it another name, may be summarized as follows. The mixed-farming industry formed the basis, in which the accent fell on stock-breeding. Trade and crafts provided supplementary means of subsistence. One would gladly give a rather more detailed account and especially to produce a general picture valid for the whole Frisian region, but there is not enough evidence available from the Roman period itself to do so.

Slicher van Bath has given a survey of the economic situation in Friesland around 900 A.D. On the grounds of what has been said above it is clear that many of the characteristics enumerated by him are also valid for Roman times. This is definitely the case of the characteristics given by Slicher under b, c and d; with the necessary changes in detail, this is true of e also: favourable position for trade in our period with the northern part of the Roman Empire, and with Scandinavia; and possibly even of those under f, g, and i: in view of the many coin-finds and the small tablet from Tolsum it is probable that (Roman) money played a certain role in Frisian economy (f), strong central government cannot be accepted as a matter of course (g), but it is also very possible that the feeling of solidarity generated by the battle against floods and water was already very strong in the Roman period (i).
The points a and b remain (respectively, the great demand for imported corn in the terp region and the strong expansion of the region in the Early Middle Ages) and it would be of great importance if it could be established that both of these last characteristics were also already present in the Roman period. In later periods they are the direct results of the relatively very high density of the population in the Frisian terp region, particularly in Westergo.
Slicher van Bath takes the population figure as the starting-point of his survey and in the absence of historical sources in effect makes his calculation for the Carolingian period with the help of archeological material. One can argue that this material is anything but complete at present. For example, it is not at all certain whether all the terps included in the calculations were, in fact, inhabited in the Carolingian period. On the other hand, the adopted numbers of inhabit-

30 Plinius, *Naturalis Historia* X. 53–4.
31 Groninger Museum voor Stad en Lande inv. no. 1926/VI 43–60; IX 6, 7.

ants per village are very low and a large number of terps are excluded from the calculations. In this way the total figures (Westergo, c. 15 000; Oostergo c. 10 000; Zeven Wouden c. 5 000) certainly do not give the impression of being exaggerated.

We see no reason to believe that the density of the population of the clay region in the Roman period was any lighter. It is indeed probable that there was an increase in population in the regression period of the 8th and 9th century shortly before the Carolingian period due partly to colonization of new land in Barradeel and east Oostergo. But, on the other hand, a decrease in population in the preceding Migration period is not in the least improbable, whereas, moreover, the marginal zone of the clay region east of Westergo and south of Oostergo was certainly much more densely populated during the first centuries A.D., judging from the many settlements silted over in the Late-Roman period, than it was in the Carolingian period. Moreover, the figures taken by Slicher van Bath of 80 inhabitants each for a big village in Westergo and Oostergo are for the Roman period definitely on the low side. Haarnagel arrived at 250–300 for the Feddersen Wierde and even that, in our opinion, is still a low estimate because it is based on only 8 inhabitants per farm. Halbertsma's estimation then of 20 000 inhabitants for Westergo during the Roman period is probably hardly excessive.

Some day it will be possible to arrive at more exact and better grounded figures, but for the present we will follow Slicher van Bath's line that the population density of the terp region in the Roman period was already high. It was extraordinarily high in Westergo; in Oostergo and especially in Groningen it was considerably lower. At that time the population of the Frisian sand districts was also small.

The general impression given by the differences of find density between the various regions supports this view. The difference in importance of the collections in the Leeuwarden and the Groningen Museums surely cannot be exclusively due to a greater passion for collecting in Friesland. Strikingly few finds are known from the Frisian sand districts. In the following chapter due reference will be made to the fact that even the Drenthe sand districts seemed to be unattractive in the Early-Roman period. The explanation must lie, as it did in the Early Middle Ages, in the fact that with fundamental similarity of the way in which the farming was operated in the sand and the clay regions, the yield per acre of the agricultural crops was lower and that there were less favourable grazing possibilities on the sand than on the clay.

Two North-Netherlands find-categories from the Roman period have been studied in more detail and in this connection also deserve mention: the terra sigillata and the Roman coins (fig. 8–10). In both cases, thus, Roman imports are concerned. Finds of coins, especially stray finds, and sherds were richest at Westergo, not only as regards the number of find-spots but also the absolute number of individual coins. In Oostergo they are at once markedly fewer, in the Groningen terp region they decrease again, and in Drenthe, finally, they are relatively rare. This applies particularly to the centuries between c. 50–250 A.D.

A few years ago[32], we looked for the explanation of this situation in the chances of discovery and especially in the more or less favourable location along the above-mentioned trade-route. For, after all, Westergo does lie nearest to the Roman Empire along this waterway, whereas the sand districts of Drenthe had a clearly unfavourable position. With this in mind, the differences in richness of finds would reflect the frequency of the contacts with the Roman Imperium. This may indeed have been partly the case but on the other hand it may be said that although this situation does not prove the above accepted differences in population density, at least it does not contradict them. In the Early Middle Ages, the relatively dense population in the terp regions produced a powerful impulse towards expansion. The signs which indicate that the clay districts were busy expansion areas in the Roman period also, and which thus consequently make a high population plausible, will be discussed in the following chapter.

If Slicher van Bath shows that the agricultural acreage available in the Carolingian period was insufficient to feed the large population then consequently one has to consider the probability that corn was also already imported during the Roman period. The northern part of the Roman Empire in the first place is eligible as export market. At first sight, such a conclusion is rather astonishing, but on second thoughts it could fit in well with the mutual dependence of Friesland and the Roman Imperium to be discussed later.

Very little is known about the social structure. Undoubtedly there were differences in wealth, although this cannot be deduced directly from the difference in size of farms because trade and industry were means of subsistence as well as stock-farming. There is no archeological evidence indicating a class of serfs.

A strong central government is improbable in an area where communications for part of the year at least were very poor. Verritus and Malorix, familiar from Tacitus[33], are not likely

32 Van Es 1960.

33 Tacitus, *Annales* XIII, 50.

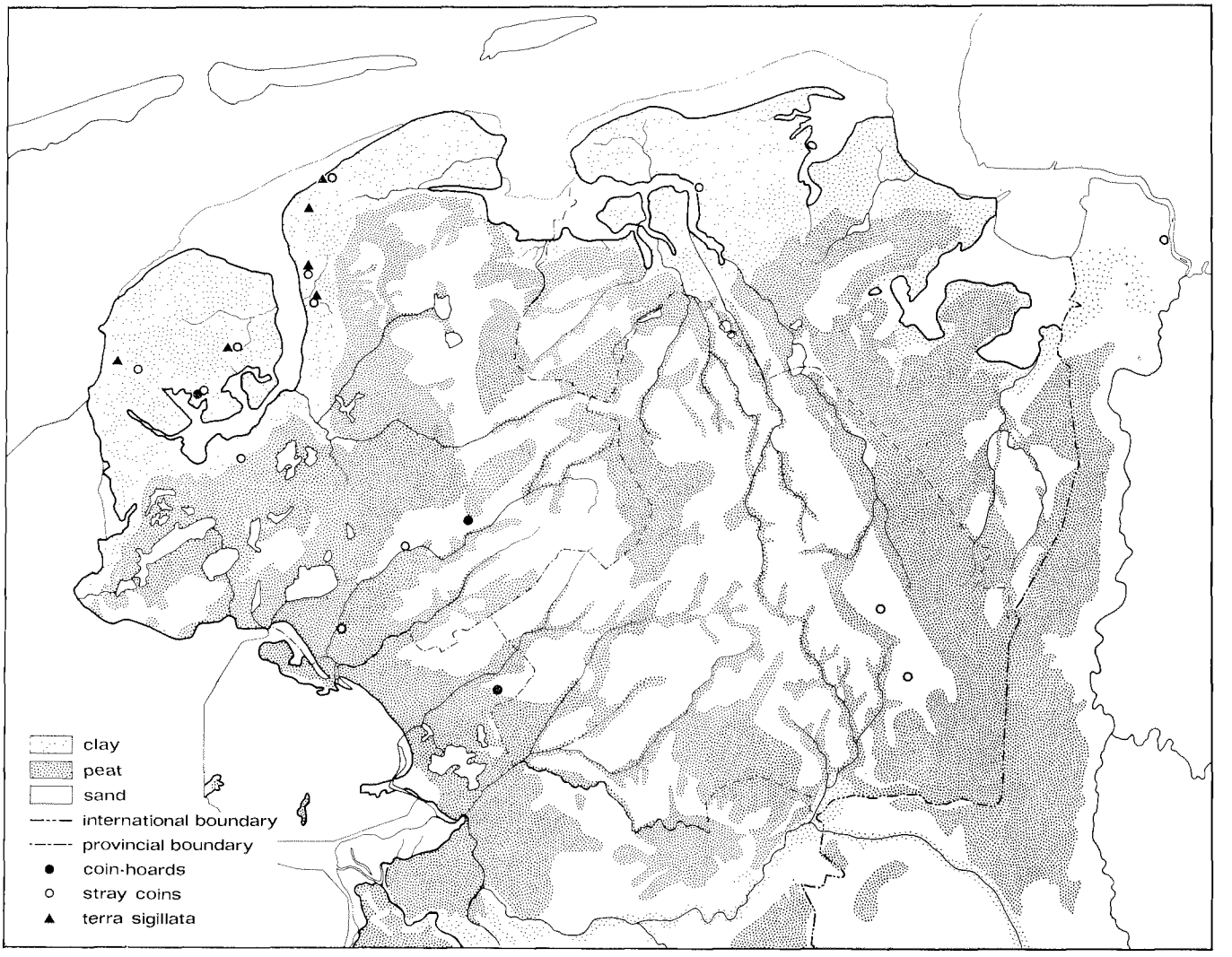

Fig. 8. Roman coins and terra sigillata: Augustus-Nero. After Boeles 1951; Van Es 1960

COIN-HOARDS	STRAY COINS		TERRA SIGILLATA
Feins	Arum	Leeuwarden	Bilgaard
Onna	Bajum	Odoorn	Cornjum
Oude Horne	Emmen	Oudeschoot	Ferwerd
	Ferwerd	Sneek	Hallum
	Jelsum	Winsum (Gr.)	Kimswerd
	Jemgumer-Kloster	Wommels	Winsum (Fr.)
	Langelille		

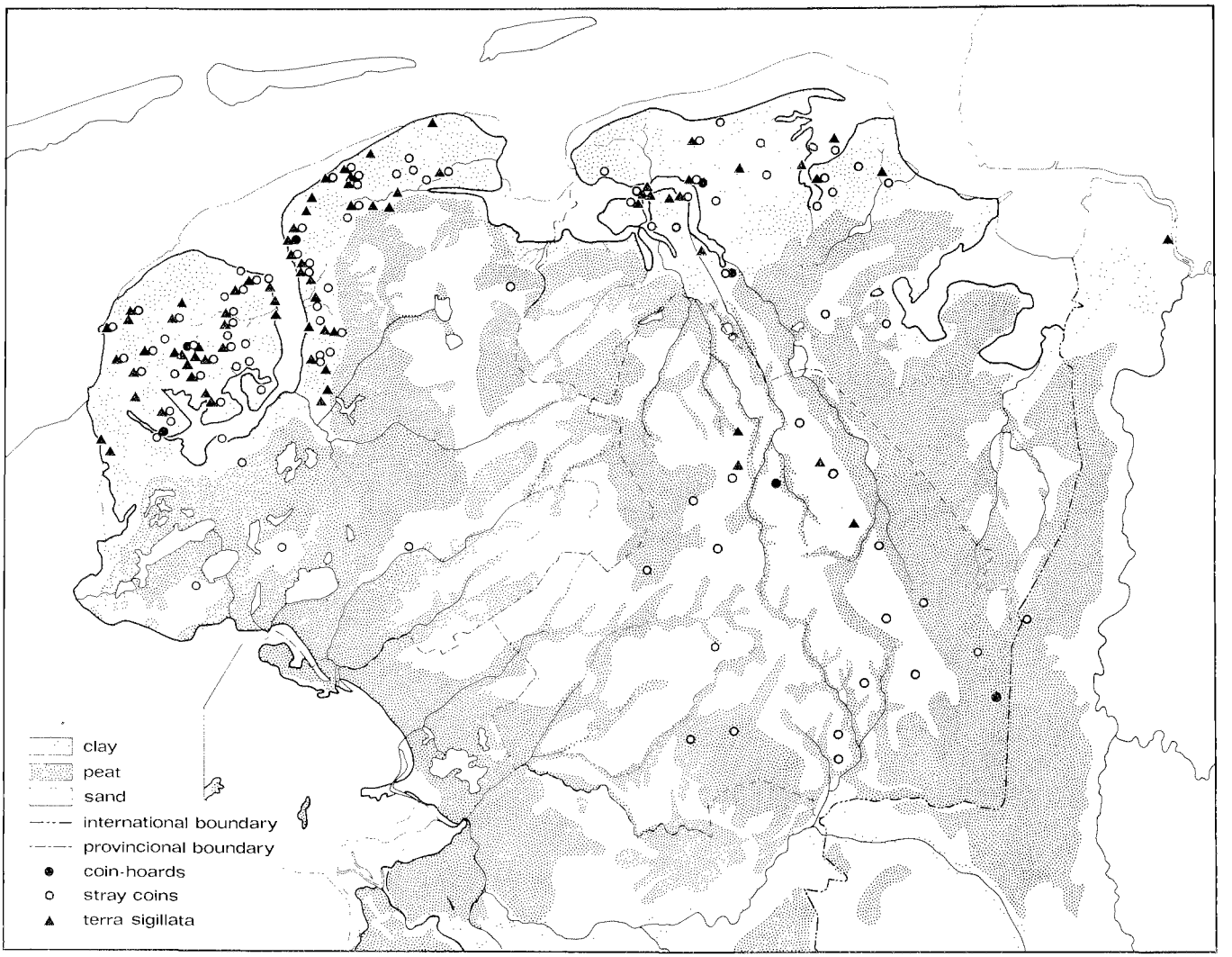

Fig. 9. Romain coins and terra sigillata: Nero–Postumus. After Boeles 1951; Glasbergen 1940–4 and 1945; Van Es 1960

COIN-HOARDS

Ballo
Bargercompascuum
Bolsward?
Finkum
Groningen
Rütenbrock
Tzum
Winsum (Fr.)?

STRAY COINS

Aalsum
Achlum
Appingedam
Arum
Assen
Augustinusga
Baard
Bajum
Balk
Beetgum
Beetgumermolen
Berlicum
Blija
Bolsward
Bornwerd
Bovensmilde
Britsum
Buinen
Dalen
Den Ham
Dronrijp
Emmen
Emmererfscheidenveen
Ferwerd
Foudgum
Franeker
Garnwerd
Garrelsweer
Gieten
Groningen
Hantum
Harlingen
Hatsum
Hempens
Hiaure
Hichtum
Hitsum
Hoogebeintum
Hoogersmilde
Hoogeveen
Hooghalen
Houwerzijl
Huins
Huizum

STRAY COINS (continued)

Hyum
Jislum
Joeswerd
Kantens
Kimswerd
Kolham
Kornjum
Kubaard
Leegemeer
Leeuwarden
Lekkum
Lollum
Loppersum
Menaldum
Nieuweroord
Odoorn
Oldehove
Oosterbeintum
Oosterend
Oosterlittens
Oosterwijtwerd
Oudeschoot
Raskwerd
Schipborg
Slappeterp
Sleen
Sneek
Spannum
Stiens
Ten Post
Ter Horn
Tirns
Tzum
Valtherveen
Vledder
Wachtum
Wanswerd
Warffum
Westerwijtwerd
Wetsens
Wetsinge
Wiewerd
Winsum (Gr.)
Winsum (Fr.)
Wirdum
Wijnaldum
Wijns
Wijster
Zuidbroek
Zwichum

TERRA SIGILLATA

Aalsum (Gr.)
Achlum
Arum
Barrum
Bajum
Beetgum
Bilgaard
Blija
De Brillerij
Britsum
Cornjum
Deinum
Dongjum
Dorkwerd
Dronrijp
Drouwen
Eenum
Eext
Engelum
Ezinge
Feerwerd
Ferwerd
Finkum
Franeker
Friens
Garnwerd
Goutum
Hallum
Harlingen
Hatsum
Hempens
Hichtum
Holwerd
Hoogebeintum
Hoogterp
Hyum
Idaard
Idsegahuizen
Janum
Jelsum
Jemgumer-Kloster
Jislum
Joeswerd
Kiestrazijl
Kimswerd
Klaarkamp
Kloosterterp
Kubaard
Makkum
Marrum
Marssum (Fr.)
Menaldum
Midlum
Onderdendam
Oosterbeintum
Oosterend
Oostum (Gr.)
Peelo
Raard
Raskwerd
Rhee
Spannum
Stiens
Sybrandahuis
Teerns
Tjaard
Tolsum
Tzum
De Vlaren
Westeremden
Wetsens
De Wierhuizen
Wierum
Winsum (Fr.)
Wirdum (Gr.)
Witmarsum
Wommels
Wijnaldum
Wijtgaard

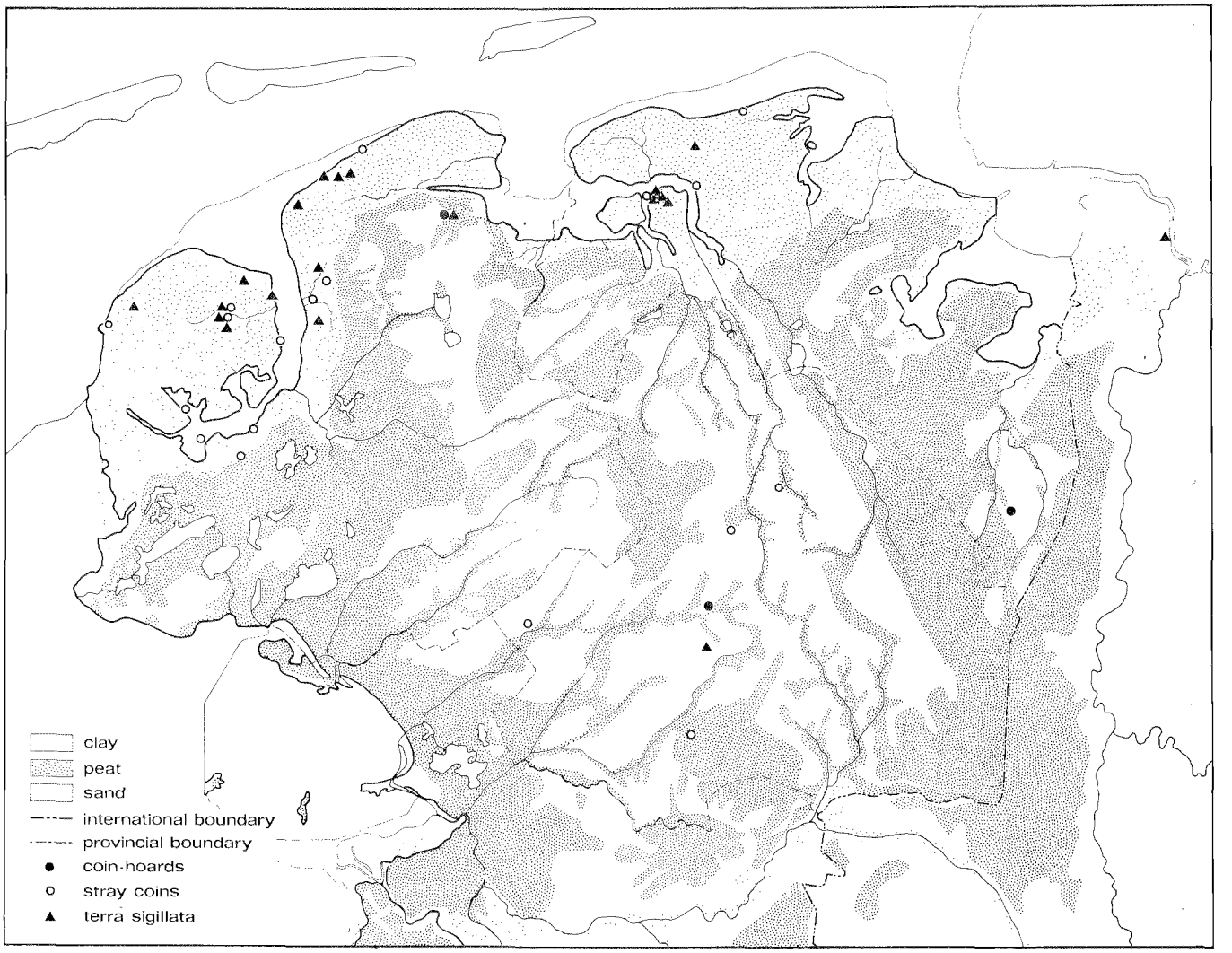

Fig. 10. Romain coins and terra sigillata: Postumus-Honorius. After Boeles 1951; Glasbergen 1940–4 and 1945; Van Es 1960

COIN-HOARDS

Beilen
Driesum
Drieterpen
Kopstukken (Onstwedder Mussel)

STRAY COINS

Burgwerd
Dronrijp
Eeleveld
Ezinge
Frederiksoord
Harlingen
Hatsum
Holwerd?
Hoogeveen
Jellum
Leeuwarden?
Lekkum
Nijland
Rolde
Scharnegoutum
Sneek
Usquert
Winsum (Gr.)

TERRA SIGILLATA

Bayum
De Brillerij
Cornjum
Dronrijp
Ezinge
Feerwerd
Ferwerd
Goutum
Hallum
Hatsum
Hoogebeintum
Jemgumer-Kloster
Marssum
Menaldum
Oosterbeintum
Oostum (Gr.)
Raskwerd?
Wijnaldum
Wijster

to have 'ruled' over an immense kingdom. It is difficult to form an exact picture of Tacitus' meaning when he reports that Corbulo in 47 A.D. 'imposed senate, magistrates and laws'[34]. This probably did not refer to the Frisians who lived in the region of the present-day Friesland, but to groups nearer the frontier. But even then it remains remarkable that these people should have accepted a form of government which was more or less Roman. However, perhaps their native mode of government did not differ so fundamentally from that of the Romans. Certain 'Roman' elements such as assembly of the people, council of elders and annually changing magistrates (dispensation of justice) could already have been present.

In the village on the Feddersen Wierde one of the farmsteads was of special importance. It lay somewhat apart, had a relatively large number of outhouses and obviously played a special role in the metal-working industry and in trade. The interesting thing is that this situation continued to exist for centuries on end. In successive villages this extraordinary farm is always found on the same spot. Haarnagel allots it to the 'Lord of the Village'. Moreover, the systematic planning of the terp villages indicates a strong community spirit, common consultation and a certain degree of central village government. The same applies to a village in the sand districts, such as Wijster, although there the village form itself is entirely different. Naturally, one is inclined to draw parallels with the later '*hoofdelingen*' (headmen) and to give the 'Lord of the Feddersen Wierde' a leading function in the dispensation of justice and in the religious life of the community. However, for the time being it remains one of the many unanswered questions: was the situation at Feddersen Wierde normal or the exception to the rule?

There is no archeological material indicating a Frisian ruling class in the Roman period, but this is hardly surprising so long as the Feddersen Wierde remains the only fully investigated terp. The very simple form of interment that was commonly used in Friesland and along the entire south coast of the North Sea, again makes it impossible to deduce from grave-finds whether an upper class had been present.

Elsewhere, in Denmark and to the east of the Elbe, where different burial customs were observed, there is clear and repeated evidence of an aristocracy in the Roman period, namely, in the so-called '*Fürstengräber*', mapped by Eggers[35]. Here, in our opinion, we are confronted with differences in burial customs, and the absence of prince's graves in Friesland does not necessarily imply that the state of affairs there was more democratic.

For us, it remains an attractive hypothesis to put Verritus and Malorix on the same footing as the 'Lord of the Feddersen Wierde' and to see them as the representatives of a ruling class whose members had some authority, though this may have been rather limited in range, over small regions and small groups of people. Their confident bearing during their visit to Rome in Nero's reign, a visit proof in itself of the contact between Friesland and Rome, is in accordance with their high social position[36]. Indeed, even according to present-day standards, it is typically Frisian.

Selected Bibliography

Boeles 1951; Clason 1962, 1967; Eggers 1951; Van Es 1960; Van Giffen 1913; Glasbergen 1940–4; Keuning 1953; Lewis 1958; Müller-Wille 1965; Van der Poel 1960–1; Roes 1963; Slicher van Bath 1965.

III THE HISTORICAL DEVELOPMENT

The presence of the Roman Imperium in the Europe of that time is a factor whose significance is almost impossible to overestimate.

In general, the Roman Empire had reached its definitive boundaries at the beginning of the 1st century. These lay along the Rhine and the Danube and, apart from the conquest of England in the middle of the 1st century, there was no further expansion to the north.

Within the frontiers of the Empire a development took place which, in the heyday of the 2nd century especially, led to a high level of political and cultural unity and an economic stability hitherto unknown. At the same time, the Empire exercised an enormous influence on the countries lying outside its frontiers. This influence was of a political, cultural and economic nature.

The Imperium had very close contacts also with the region of Friesland. How close these contacts were can be seen from the quotations given above referring to Verritus and Malorix who travelled to Rome as if it were the most natural thing in the world, from the service of Frisians in units of the Roman army, from Roman import-finds in Friesland etc. etc.

Just as everywhere else, these contacts must have caused a process of acculturization, though it is extremely difficult to

34 Tacitus, *Annales* XI, 19.

35 Eggers 1951, 48–51.

36 Tacitus, *Annales* XIII, 54.

judge how far the Frisians allowed themselves to become romanized. On the whole the material culture continues to keep its native traits. The form of houses and villages show no traces of Roman influence. Acquaintance with Roman pottery did not lead to the adoption of the potter's wheel: Frisian pottery continued to follow its own native tradition in form and technique. Roman money may have been used also as internal currency, but as yet the Frisians did not strike their own. Statuettes of Roman gods stood in the Frisian houses, but one gets the impression that this was merely the adoption of an outward form, while religious beliefs and customs remained faithful to local traditions. The measures taken by Corbulo in the field of justice and administration probably conformed closely to those already existing. If one thinks that he intended to create a new order in the Roman style, then presumably very little came of it. Boeles points out that Frisian law of a later period shows hardly any trace of Roman influence. All in all, it looks as if the Frisian culture in principle remained independent and that romanization, in the true sense of the word, simply did not take place.

Nevertheless, it is fully justified when speaking of Frisian history to distinguish a Roman period. During the four centuries in which the Roman Imperium was active in western Europe, there was a close correlation between Rome and Friesland. The developments in both regions were interrelated and connected with each other in the closest possible way. Thus the Roman Imperium, apart from the environment and the Frisians themselves, was a decisive factor in the play of historical events within the Frisian region. The mutual dependence showed itself in the economic and political sphere particularly.

Frisian economy was based largely on the presence of the Roman Empire. The Empire was the export market for Frisian goods and this trade created an indispensable supplementary means of livelihood for the large population. It is even probable that Roman grain imports were necessary to feed them. These economic operations could only function at all if the situation within the Empire was stable and the forces active within and without the frontiers were kept in balance. A disturbance of this balance would have meant catastrophic consequences for the Frisians. The conscious efforts to promote precisely this balance along the Imperial frontiers and to maintain it was for a long time, in fact it always was, the essence of Roman foreign policy. At the same time the active interest taken in affairs concerning the North Netherlands and the Frisians was merely part of a much greater whole, but it can be firmly established that the Frisian region from the beginning to the end of the Roman period lay within the sphere of influence of Roman foreign policy.

Three phases can be distinguished in the policy conducted by the Imperial government north of the Rhine. In the first place, the policy was based on the view, accurate in itself, that the Rhine as imperial defence line was untenable; efforts were made to shift the frontier to the Elbe. This policy could only be effected by military means, of course, and thus Friesland was included in the territory to be conquered. The period in which this idea clearly influenced the attitude of the Roman government lasted from shortly before the beginning of the 1st century A.D. to about 50 A.D., and can be described as the period of military expansion.

After these plans of conquest had been abandoned, the Romans tried to maintain the existing frontier chiefly by peaceful means. The measures taken amounted in fact to the creation of a ring of satellite states which were tied to Rome politically and economically. The basic idea was twofold: the people living on the frontier, among others the Frisians thus, were themselves in this way made dependent and stabilized, while acting at the same time as a buffer in times of pressure from the more distant parts of Germany. The measures taken by the Roman government were primarily of a political kind; military action outside the frontiers did not cease completely, but this is to be regarded as a weapon maintaining the adopted policy of the status quo, which was now no longer concerned with territorial expansion.

In the period between the end of the 1st and the middle of the 3rd century this policy of preserving a balance was applied with success. After that there were perhaps no fundamental changes in the political objectives, but the great decrease in effectiveness nevertheless justifies speaking of a break. After the 2nd century the Roman Empire rapidly lost the initiative in foreign affairs. This was partly the result of the impairment of the central government's authority within the Empire itself. Separatist movements everywhere in the Empire led to a frittering away of strength. On the other hand, the pressure exerted from outside became heavier. The buffer-states collapsed under the onslaughts of the people living further off, and as the power of Rome declined so their good will towards her also disappeared. Thus this last period presented a picture of repeated break-downs in the balance, alternating with more or less successful attempts on the part of the Romans to restore it stability. This period began along the Lower-Rhine in about the middle of the 3rd century.

Thus the initiative did not always lie with the Romans; action also came from the side of the barbarians, including the Frisians themselves. The evolutions in their own region

often brought the Frisians to independant action. And so, two sets of factors, Roman and Frisian, were in opposition. It is exactly the interplay and interrelation of these factors which is the essence of the historical development in Friesland during the Roman period.

At the beginning, Frisian and Roman development was not yet synchronized. The Roman period in Friesland may be said to begin with a date provided by documentary evidence, namely, 12 B.C., the year in which the Roman legions appeared in the North Netherlands for the first time. Also a more truly archeological approach is possible and the first appearance of Roman import articles in the Frisian region can be taken as the criterion for the beginning of the Roman period. According to the early sigillata sherds from Winsum, and the Late-Republican and Early-Imperial denarii from coin-hoards such as that from Feins, for example, one also arrives at a date at about the beginning of the 1st century[37]. Some time before then, however, a new chapter in Frisian occupation history had begun and the beginning of the Roman period drops into the middle of a Frisian period, as it were. This particular period had begun after the end of the Pre-Roman transgression and the archeological criterion for the beginning of this period is the advent of the *streepband* pottery. Although the initial appearance of this pottery cannot be dated exactly, it is generally accepted that this occurred in the 2nd or 1st centuries B.C.

This period shows an occupation expansion. The distribution area of *streepband* pottery is greater than that of the pottery belonging to the preceding period; apart from Friesland, it includes the province of Noord-Holland and the clay region of Groningen.

This expansion can be observed especially in the transition area from clay to peat in the provinces of Groningen and Friesland, where now new settlements on the flat land are founded.

The Frisian expansion drive is also substantiated from historical sources. The obvious example in this respect is the already cited episode of Verritus and Malorix from the reign of the Emperor Nero in 58 A.D. With their subjects they settled in an uninhabited area kept empty for military purposes situated on the Rhine and generally assumed to be directly north of the (ancient) Rhine. We do not really know where they came from: they had travelled through woods and bogs and partly across lakes. It is unlikely that they came directly from Westergo itself; they may have come from nearer by, from somewhere in Noord-Holland. In spite of furious efforts they failed 'to obtain from the Emperor a new land to live in', nor did they manage to keep their ground illegally. In the end, they were driven out by the Roman cavalry.

Two conclusions are interesting in this respect: at about the middle of the 1st century the Frisian expansion drive made itself felt as far as the Rhine, though this does not imply that this was the first time that such a situation had occurred; this Frisian expansion came into conflict with and was arrested by the Roman expansion, which was working in the opposite direction.

It is generally assumed that by the beginning of the Roman period already, if not from shortly before, the Frisian region stretched from the Rhine to the Ems. Tacitus' rather obscure remark, *usque ad oceanum Rheno praetexuntur*,[38] does not seem to contradict this. Tacitus writes at the end of the 1st century, but is certainly using older information. He distinguishes *Frisii minores* and *maiores* on the grounds of their numbers. The former are localized in Noord-Holland[39], the latter in present-day Friesland: a further argument for the relatively high population in Westergo.

It is supposed that the Frisiavones were a part of the Frisian people who had been expelled from their land along the Rhine border and who had been given country directly within the Rhine frontier, probably in the western part of Noord-Brabant, as compensation. Such an arrangement was apparently no longer possible under Nero.

Thus, from the beginning of the Roman period, Frisian expansion, which was caused by demographic and economic factors, clashed with Roman imperialism. The same motives, which held good for the Frisians, were also present in the case of the Chauks. In his report on the raids of the Chauks in the time of Claudius, Tacitus observes that the pirates were attracted by the wealth and defencelessness of the province of Germania Inferior; the death of the Roman legatus produced a vacuum there.[40] For Tacitus, the Chauks are the inhabitants of the coastal region to the east of the Ems.[41] Moreover, in his Germania he emphasizes their large numbers whereas it is evident from the Annales that the raids were not the result of internal strife.

With this it appears that by the beginning of the 1st century all the elements were already present which, in different combinations but always fundamentally the same, have decided the history of the coastal regions of Free Germany.

37 Boeles 1951, 128–9; Van Es 1960.

38 Tacitus, *Germania* XXXIV, 1.

39 *E.g.* Byvanck 1943, I, 206.

40 Tacitus, *Annales* XI, 18.

41 Tacitus, *Germania* XXXV.

One of the most important of these was the expansion drive of the native population resulting from over-population combined with limited economic possibilities in their own country. In the case of the Frisians this originally showed itself in the effort to gain more land, in a southerly direction among others, until the arrival of the Roman Imperium put an end to it. The attemps of the Chauks at expansion did not come into conflict so directly with the Romans. Territorial extension along the coast in the direction of the Empire was not possible for them because the presence of the Frisians prevented any such movement. They resorted to shipping which, in 47 A.D., degenerated into piracy as the result of the temporary weakness of the Roman frontier defences. Not long after, when the imperial defences were strong again and the economic situation within the Empire made it possible, this same shipping turned into peaceful trading, this being an economic necessity for the coastal peoples. In other words: attemps to stay permanently on Roman territory, trade, and piracy on the part of the coastal peoples are only three different ways of reacting to a fixed situation in the homeland. The difference in reaction depended on the circumstances at any given moment in the north-western part of the Roman Empire.
That the check to Frisian expansion to the south at this stage did not lead to catastrophe, in spite of the fact that more peaceful economic contacts were not made immediately, can be explained by the possibilities which still existed at that time for 'internal' expansion.
The favourable environmental conditions in Groningen, Friesland and Noord-Holland made occupation of marginal peaty regions possible.

The history of the period in which the first contacts were made between Frisians and Romans is known in considerable detail. For this we must thank the Roman historians, whose works we have quoted several times. Tacitus (end of the 1st century A.D.) is the most important for our purpose. Others like Suetonius, Florus, Velleius Paterculus and Cassius Dio contribute shorter accounts. Much has been lost; some lost works have come down to us in an indirect way in the texts which have been preserved (*e.g.* Plinius' *Bella Germanica* in the works of Tacitus). The written sources are, however, not only incomplete; they also only cover a short period. Apart from a few epigraphic monuments, there are practically no more written sources after about 70 A.D. having any positive bearing on the Frisians. After this date, we must be content with a few very fragmentary pieces of information which throw only very little indirect light on Frisian history. This is no accident. The end of the Republic and the beginning of the Imperial era represented an illustrious age in Roman historical literature. Moreover, the interest taken by Roman scholars and writers in this faraway corner of Free Germany waned considerably after the 'Elbe policy' had been abandoned definitely.
Although much of what is told us about the earliest period also applied to later periods, it is precisely in this 'Elbe policy' where we find the real character of this first period. The textual sources report six military expeditions to the territory of the Frisians: that of Drusus in 12 B.C.,[42] of Tiberius in 4 and in 5 A.D.,[43] of Germanicus in 15[44] and in 16 A.D.[45] and that of Corbulo in 47 A.D.[46] They all form part of the above-mentioned Elbe policy, the concrete attempt to subjugate and romanize the German regions ar far as the Elbe. None of these campaigns was specifically directed against the Frisians. Drusus had merely passed through it on his way to the land of the Chauks, Tiberius pushed up as far as the Weser and the Elbe in 4 and 5 A.D., his fleet even entering the East Sea, Germanicus' first march took him to the mouth of the Ems (he may have got as far as possibly the Weser in 16 A.D.)[47] and Corbulo, in particular, was out for Chaukan blood. The subjugation of Friesland was thus merely a means to reach a far more distant end. The plan to conquer Germany was based on the execution of a pincer-movement: from higher up the Rhine, army units pressed overland along the Lippe into the German region and at the same time more troops were transported by ship via the Flevo lake and Wadden to North Germany. The latter route was quicker and less dangerous, and transport by water had great advantages for supplies. Seen in the context of this plan thus, the conquest of Friesland was a small, but necessary, affair. So, for the first time the Frisians 'profited', as it were, from their location on the important water-route.
Most of the six expeditions mentioned were clearly naval manoeuvres, or rather troop-movements by sea. Corbulo's campaign is the only one in which no explicit mention is made of ships, but it is practically certain that he also transported his troops by water. At the time of Germanicus' expedition in 15 A.D., Pedo went 'through the land of the

42 Velleius Paterculus II, 97; Suetonius, *Claudius* I, 2; Tacitus, *Annales* II, 8; *Germania* XXXIV, 2; Florus IV, 12, 26; Cassius Dio LIV, 32.
43 Velleius Paterculus II, 106; Cassius Dio LV, 28.
44 Tacitus, *Annales* I, 60, 63, 70.
45 Tacitus, *Annales* II, 5, 6, 8, 23; Cassius Dio LVII, 18: 1.
46 Tacitus, *Annales* XI, 18–20; Cassius Dio LX, 30: 4–6.
47 Norkus 1963, 89–97.

Frisians' with cavalry; part of the cavalry returned also 'along the coast of the sea', while even two legions would have had to endure the homeward march along the coast on foot. There is reason, however, to agree with Norkus and think that Tacitus' graphic description of the march made by the 2nd and 14th Legion under Vitellius stands in the wrong place, and in fact took place neither in 15 A.D. nor in Friesland.[48]

Details of the route followed by the Roman legions have not come down to us. The frequently mentioned water-route over Vecht, Flevo lake and Wadden undoubtedly played the most important role. The distribution of Roman coins found in the North Netherlands from this period suggests, however, that small rivers in south-east Friesland such as the Tjonger and Linde, and outside this province Steenwijkerdiep, Beilerstroom and Vecht, were used as supply lines. The distribution of the coin finds is, namely, very striking in comparison with those of a later period. Early 1st century coins have come to light not only in Westergo (*i.a.* the silver hoard at Feins) and in the west of Oostergo but also in South-east Friesland. In proportion even remarkably many coins are found in the latter area (*i.a.* the two hoards at Onna and Oude Horne) while the population in this district must have been relatively small; later, in the 2nd century, coins became extremely scarce here. In addition two early copper coins were found in the neighbourhood of Emmen in South-east Drenthe and rather more to the south is the hoard at Denekamp (fig. 8). It is logical to see these coin finds in connection with the Roman conquest and to think of overland communications from the Flevo lake and north-west Overijssel, through mid-Drenthe to the neighbourhood of Emmen, where the peat-moors were at their smallest and a passage to the Ems was apparently possible. Perhaps Pedo with his cavalry used this route in 15 A.D. Another 'land-connection' apart from this one, along the IJssel and Overijssel Vecht cannot be completely excluded.

The Romans did not find the conquest of Friesland at all difficult as is indicated by the word used by Cassius Dio.[49] Frisians had already accompanied Drussus as allies on his expedition against the Chauks in 12 B.C.

The tribute of hides, against which the Frisians revolted in 28 A.D., was imposed on them by Drusus.[50] He presumably also founded castellum Flevum, the Roman fort situated in Friesland which Tacitus mentions in connection with the incidents that took place there in that year. According to Byvanck a similar fort possibly existed on the Ems.[51] Augustan sherds, which in the North are otherwise extremely rare, were found at Jemgum on the Ems.

Thus, originally the Frisians admitted defeat and in this they behaved no differently from the other Germans. At the beginning there was practically nothing approaching serious resistance anywhere in Germany. The reaction came later. It is easy to be wise after the event; at the time the Roman government did not assess the situation correctly. The appointment of the capable lawyer, Varus, as legatus of the recently 'conquered' territory, with the intention of introducing the process of peaceful romanization, led to the catastrophe of 9 A.D. in the Teutoburgerwald. After that year for many reasons, which we cannot go into here, the central government no longer pursued its Elbe policy with its former energy. Germanicus' expeditions in 15 and 16 A.D. give the strong impression of being a matter of personal prestige.

The Frisians themselves reacted only in 28 A.D., thus very tardily. Halbertsma[52] is inclined to place the incidents mentioned by Tacitus[53] in Noord-Holland: Castellum Flevum = Velsen, Lucus Badahennae = Heilo. In central Noord-Holland, at Velsen and Krommenie for example, large quantities of Roman pottery dating from the 1st century have been found recently.

No further strong Roman influence in the Frisian region, and certainly none in present-day Friesland, was to be found in the remaining part of the century after 28 A.D. Tiberius treated the Frisian desertion lightly and in so doing demonstrated how little he liked the idea of persecuting the Elbe policy at that moment. Henceforth, the Frisians were established by name among their own race: *clarum inde inter Germanos Frisium nomen*[54]. In 47 A.D. they were still 'unfriendly and untrustworthy'[55]. Corbulo's conquest of Friesland in 47 A.D. lasted only a very short time and had no permanent effect.[56] Corbulo's recall by Claudius is additional proof of the lack of interest taken by the Imperial government in territorial expansion north of the Rhine. In 69/70 A.D. the Frisians were to be found again fighting on the side of the rebels[57].

As in the case of archeological finds, textual sources give

48 Norkus 1963, 81–2.
49 Cassius Dio LIX, 32.
50 Tacitus, *Annales* IV, 72.
51 Byvanck 1931–47, I, 306: ad 15.
52 Halbertsma, personal communication.
53 Tacitus, *Annales* IV, 72–3.
54 Tacitus, *Annales* IV, 74.
55 Tacitus, *Annales* XI, 19.
56 Tacitus, *Annales* XI, 18–20; Cassius Dio LX, 30: 4–6.
57 Tacitus, *Historiae* IV, 15: 7; 16: 3; 18: 9; 56: 7; 79: 4.

very little evidence of any really close contact between Frisians and Romans during the period of the Roman expansion. There was no question of romanization; the period of forty years between 12 B.C. and 28 A.D. was far too short for such a development.
After 28 A.D. Roman influence in the Frisian region, and certainly among the Frisians in the terp region, has practically disappeared. In 58 A.D. the initiative even threatens to pass into the hands of the Frisians, namely, by expansion to the south.
The three coin hoards at Oude Horne, Feins and Onna close nearly simultaneously: the latest coins date from the end of the reign of Augustus or from that of Tiberius. They form a hoard horizon. Moreover, two of these occur in a region which must have been relatively thinly populated.
A hoard horizon is proof of disturbance or war. If one accepts the view that the rebellion of 28 A.D. took place further to the south, in Noord-Holland, then the above-named hoards cannot have any connection with it. Corbulo's punitive expedition in 47 A.D., however, does have to be taken into consideration. As far as we know, this is the last occasion on which Roman legions stayed for any length of time in the North Netherlands. The absence of Claudian denarii could be explained by the rupture of contacts in 28 A.D.
Thus, the period of Roman expansion, as far as Friesland was concerned, ended in 47 or rather in 28 A.D. After Tacitus' report of the rebellion in 69/70 A.D., there are also virtually no more written records having any bearing on the Frisians. Only the archeological finds remain. These show no signs of close contact with the Roman Empire for the rest of the 1st century.

In the meantime, native development was hardly interrupted by this Roman intermezzo. Roman expansion was not maintained and it was only in the south that any check was exerted upon the Frisians. Internal colonization was still possible, especially in the marginal zones of the clay region, but new settlements were also established at the beginning of the 1st century in the north-western sand districts of Drenthe. Three settlements dating from this period are found in the neighbourhood of Zeijen and Vries. One of these has a remarkable square shape reminiscent of a Roman army camp. However, it is not clear whether we can really speak of Roman influence here. The district in which these settlements were located was closely connected with the North-west Groningen terp region via several small tributaries of the Hunze, and they were probably settled from there.
Most of the remaining settlements known from the Drenthe sand districts seem to have been founded later, as late as during the 2nd century. Among other settlements, this is quite clearly the case of the one at Wijster, in the neighbourhood of Beilen. Should the dating of these settlements be correct – it is based on a preliminary study of the pottery – then an expansion of the sand-district occupation materializes here which can be seen as the last phase of internal colonization of the Frisian region.
In the beginning of the Roman period, or shortly before, the marginal areas had been colonized by people coming from the terp districts. Afterwards, in the course of the 2nd century, the much less attractive sand regions had been taken into consideration. The Roman Empire south of the Rhine barred further expansion along the coast. The most characteristic pottery types found in the sand regions belong to the pottery province which stretches along the southern coast of the North Sea. As far as we can see at present, Westergo falls outside it and thus there is not much reason to assume that the inhabitants of that part of Friesland played an important part in this recolonization of the North Netherlands sand districts.

During the 2nd century the Roman Empire was at the peak of its political and economical power, and Frisian economy was to a high degree dependent on trade with the Empire. However, towards the end of the century the first signs of a disturbance in the balance became visible.
Shortly after 170 A.D. we hear of Chaukan raids on the Roman province Belgica. As far as we know, these were the first since the time of Corbulo; at the same time, they foreshadow the events of the 3rd and 4th centuries. One may ask if here, in fact, is only referred to the people from the region to the east of the Ems estuary, or whether in this case the name 'Chaukan' is used as a general description of the people of the entire coastal region. In any case, the Frisians are not named by name and it is possible that they behaved in a rather more friendly manner towards the Romans than their eastern neighbours. The reason for this could lie in their economic dependence.
We have already referred to two factors which led the coastal peoples to go on their raids: weakness of the Roman Empire and the pressure within the coastal region itself. It is conceivable that events on the Danube (the war against the Marcomanni and the Quadi) shortly after 170 A.D. led to relaxation at the north-west end of the defence line. Coin finds indicate, however, that the situation in the Chaukan region itself was restless at about this time. Shortly afterwards in about 200 A.D. there are signs of some disturbance among the Frisians in the North Netherlands. This is shown

by a hoard horizon consisting of the coin hords at Winsum (Fr.), Tzum, Finkum, Bolsward, Boterdiep in North Groningen, Ballo, Bargercompascuum and Rütenbrock. In this connection, it is interesting to note that an important change took place in the Wijster settlement at the beginning of the 3rd-century.

The cause of this unrest is not completely clear. There is not enough reason to think that the Chauks were making life difficult for the Frisians as well. Perhaps the reason must be looked for in the worsening environmental conditions.

In the 3rd and 4th century the latter was certainly a factor of decisive importance: the Late-Roman transgression. It is not known exactly when this transgression began, but it is generally assumed to have been about the middle of the 3rd century.

One must understand clearly what had happened. The Roman Empire had made any expansion to the south impossible for a long time and thereby forced a situation of internal colonization. Since the re-colonization of the sand regions, the ground available for internal colonization had been exhausted. Moreover, the land fit for habitation also began to decrease: many settlements in the marginal zone were silted up and abandoned. It is understandable that the pressure coming from the Frisian region on the Roman Empire now increases, particularly when the resistance in the Empire itself is greatly reduced. This pressure shows itself in raids of piracy or attempts at immigration. However, because of an almost complete absence of written evidence, details are unknown.

The loss of balance between the forces within and without the Imperium led to a situation in which trade degenerated into piracy: Frisian sailors then used their ships for plundering expeditions. Only real immigration to Roman territory, however, could have permanently relieved the Frisian hunger for land, but it was exactly in this respect that the Frisian population were in an unfavourable position.

Since the end of the 2nd century the pressure of the German tribes had increased all along the Rhine and the Danube frontier. In many cases the Roman government met the demands of the 'barbarians' halfway by allowing groups of them to enter the Empire. There, as *foederati* and *laeti*, they were given land to work in peace-time, but in wartime they were obliged to serve in the army, primarily defending the frontier. For the Romans, this was a case of killing two birds with one stone: repopulation of abandoned areas and relief from the pressure from outside. The Germans themselves got what they wanted: new living space. From enlightened self-interest the *foederati* and *laeti* fought with the Romans in periods of crisis against their fellow-tribesmen still outside the imperial frontier. On one occasion at least a similar arrangement was made with the Frisians. De Boone cites a panegyric to Constantius Chlorus which records how Frisians and Chamavi, both of whom were also described as Franks, had been transformed from vagabonds and robbers to toiling farmers in the service of Rome.[58] These are the words of a Roman panegyrist, but it is doubtful if the Frisians themselves saw it in such a dismal light.

These particular Frisians, who probably lived somewhere in North France, had entered the Empire in the course of the last quarter of the 3rd century at the time of the first big Frankish attacks harassing the western part of the Imperium. The coin-hoards of Driesum, Drieterpen and Friesland (?) indicate unrest in the Frisian region itself during this period.

As a consequence of the attacks from the North-Netherlands coastal region, the entire north-westerly corner of the Roman Empire was lost. When Constantius Chlorus restored Roman rule there at the end of the 3rd century, he found the afore-mentioned Frisians to the south of the Rhine, probably in the Scheldt region.

This could be called a signal Frisian success: here, after all, an attempt at infiltration of Roman territory had been crowned with permanent success. However, the success was short lived. In about 300 A.D. the Rhine frontier was again closed; the river was far too important to the Romans as a lifeline between England and the Rhineland to relinquish their hold on the delta entirely.

But the stable economic relations known during the 2nd century were not restored. This is indicated by the decrease of coin-finds in the North Netherlands after the end of the 2nd century and especially since the middle of the 3rd. In addition, Late-Roman pottery is still only sporadically found in the North.

There are no signs that a Frisian penetration of any size took place during the 4th century to the south of the Rhine. In itself it is of little significance that we find no more written references to the Frisian, for Roman writers now call them Franks or even Saxons. The sources allow us to draw the conclusion, however, that the coastal peoples on the whole were not able to settle in great numbers in Roman territory before the 5th century.

There may have been several reasons for this. In the first place, the vigorous action taken by Constantius Chlorus had probably inspired the Frisians with new respect for Roman power. Also their expansion was logically directed prima-

58 De Boone 1954, 15, 58.

rily towards the coastal regions south of the Rhine. Here, however, worsening of environmental conditions was also making itself felt. For example, in the Westland also, in the province of Zuid-Holland, the phenomenon of the silted-up settlement of the Late-Roman period is observed. One of Constantius Chlorus' panegyrists, again cited by De Boone,[59] speaks of the Scheldt region as being 'scarcely land'. Moreover, one of the inland Frankish tribes had managed to get into the northern part of the Imperium. These Salian Franks, who had come from Overijssel and the Veluwe, had settled in the Betuwe with the Romans' permission and from there, in the course of the 4th century already, had begun to extend their territory southwards.

It is certainly not impossible that the inclusion of the Salians had worsened the chances of the Frisians; they had beaten the Frisians to it, as it were, and had now, perhaps, more or less filled up the vacuum that had come into existence to the south of the Rhine.

In the second half of the 4th century, textual sources again speak of aggression coming from Germanic coastal territory. The name Saxons is used, but it seems likely that this can be partly taken to mean the inhabitants of the Frisian coast. The aggression took the form of raids on the coasts of Gallia and Britain and was probably encouraged by a temporary weakness in the north-west imperial defences resulting from Magnentius' usurpation. This did not then result in a permanent penetration of Roman territory because the Romans, under Valentinianus, managed to restore their authority.

The gold coins of this emperor and his successors found in the North Netherlands and also the jewellery made out of similar coins, as both found together in the Beilen gold-hord, can be considered as evidence of Roman diplomatic initiative north of the imperial frontier. They were probably used to buy the friendship of the barbarians. The distribution of these finds in conjunction with that of other Roman export-goods, such as fibulae, pottery and glass, suggets that this flow of export articles left the Empire via Salian territory and reached the Groningen and North-west German coast by overland-routes running through Gelderland, Overijssel and Drenthe. As a result it appears that the heart of the Frisian region at Westergo became somewhat isolated.

It was not until after the final collapse of Roman power that the Germanic coastal peoples settled permanently on what had once been Roman territory. Here we refer to the Anglo-Saxon migration to England in the 5th century.

The question of what this Anglo-Saxon 'trek' meant to the Frisians has been widely discussed. In many respects, there are still no definite answers. However, there are a few points on which there is a reasonable degree of certainty.

At the end of the 4th century and at the beginning of the 5th we meet with two burial rites in the North-Netherlands coastal region: inhumation, urn-burial. These rites do not seem to continue earlier autochthonous evolution. As we have seen above (p. 49), there is only very slight evidence of inhumation in Friesland during the Roman period. Older urn-burials have not been found at all in our terp region, but they do occur in the coastal zone between the Elbe and Weser, the homeland of the Anglo-Saxons. The cruciform- and saucer-brooches and the Anglo-Saxon pottery, which particularly in Westergo has no associations with an already previously existing development, must also be regarded as foreign imports.

In our opinion, there is little reason here to think of trade. Actual immigration from the regions east of the Ems is the more natural reason because Anglo-Saxon migration to England is an established historical fact and the Frisian coast lay on the route from the homeland to the destination of the journey. When the character of this Anglo-Saxon immigration is considered, one need not go as far as Boeles does, however. His principal argument for the complete change in the native culture was the appearance of the 'sunken hut' at Ezinge; this argument has now lost its point since it has been established that similar sunken huts were already present in the North Netherlands centuries before. Moreover, it is in itself very unlikely that there had been much difference between the Frisians and Saxons, at least as far as their material culture was concerned. However, the Migration period seems to have brought about a still greater uniformity in the North Sea coastal region in certain things, for example, the pottery.

And yet, this particular period probably did bring great changes to Friesland. It has been established beyond doubt that the Frisians were involved in the Anglo-Saxon migrations. Historical records and the pottery introduced into England indicate this. It would have been most strange if the Frisians, who had suffered centuries-long from land-hunger, did not take this opportunity when it came.

Not one of the settlements from the Roman period discovered in Drenthe shows a continuity running through the Migration period to the Early Middle Ages. The presence or absence of such a continuity is much more difficult to establish in the terp settlements because the layers lying high up in the terps, thus the younger layers, are exactly the less well-preserved ones. In the Feddersen Wierde the occupation unquestionably breaks off in the 5th century,

59 Rheinhardt 1965, 144–5.

whereby we may observe, that it is the only terp to have been investigated completely. Reinhardt sees reason to suppose that in Ostfriesland there was also an interruption in occupation at this time.[59] As far as the North-Netherlands terp region is concerned a similar situation has not yet been proved; it is true, however, that the finds from the later 5th and 6th centuries seem to be relatively scarce.

When everything is taken into consideration, we think it probable that the years between the end of the 4th century and the middle of the 5th saw a strong decrease in the population of Friesland following initial immigration from the east. A break comes in Frisian history in about 450 A.D., due to the totally changed constellation of powers that had arisen in the meantime in North-west Europe as a result of the waning of Roman supremacy. An obscure period, the Frisian Dark Ages, begins. It is only in the 7th and 8th centuries that written tradition and archeology bring Frisian history to life again.

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H. HALBERTSMA

The Frisian Kingdom

Almost proverbial have become the long and obscure centuries which separate the history of the Friesland at the time of the Romans from the moment the arrival of the first gospel preachers casts some light on the Frisian horizon. At once already it strikes us that the Frisians are found farther south as well as eastward than might have been assumed on the basis of the information submitted by the classical writers. For was it not they who characterized the Frisian territory – a 'transrhenana gens' – as being located on the opposite side of the Old Rhine, extending beyond a flat, low coast and along the shores of wide-spread lakes, with the other side of the river Eems already marking the land of the Chauci. Moreover, there is a general tendency to not coincide the southern border of the Frisian territory (during the Roman occupation of the Netherlands) with the actual 'limes' of the Roman Empire, formed by the formerly-mentioned course of the Rhine, extending from the city of Duurstede via Utrecht to Katwijk. Instead, this border is mostly taken to have been found more northward where – to the north of the present-day town of Velsen – a bay pushed inland, and where – to our conviction – the Castellum Flevum was situated, which was besieged by the revolting Frisians in the year 28. Possibly, the coastal area between the two streams was among the regions which were depopulated by high command after the establishing of the Rhine limes in the year 47. And, possibly, it was here that a group of Frisians under the command of their 'reges' Verritus and Malorix – between the years 47 and 58 – had made a futile attempt to settle. But then, we may not overlook the fact that in recent years a series of settlements bearing Frisian characteristics have been discovered just on the opposite side of the Velsen bay, where the inhabitation had suddenly been interrupted shortly after the first half of the first century.

However this all might have been, the Italian eulogist Venantius Fortunatus counts among the peoples which king Chilperik (561–584) managed to subjugate or keep out of the Frank Empire, the 'Fresones' and the 'Suebi', referring to them as neighbours and 'extremi' settled in the remote corners of the empire. However, by this he did not mean Friesland entirely, but a water-abundant region in the Scheldt delta, where the two peoples apparently lived among each other integrated. For the 'Flandrenses atque Andoverpenses, Fresiones quoque et Suevi et barbari quique circa maris litora degentes, velut in extremis remoti' are again mentioned in a single breath when we are told something about St. Eligius, who – between 641 and 660 – spared no pains in trying to christianize the pagans living in the extremely difficult-of-access marshes between the Flemish coast and the mouths of the Scheldt river. Still in the year 880 the Annales Vedastini mention 'Menapii et Suevi' on the occasion of a Viking attack on Courtray and the plunderings which were staged from the 'castrum' that lay here, to as far as the distant surrounding area. When Wilfried, bishop of York, in 678 travels to Rome he chooses a northern roundabout route, on account of his having definite reasons for avoiding the Frank empire. His biographer and companion, Eddius Stephanus, narrates how he thus lands in 'Freis' and is in a courteous manner received by the Frisian king Aldgisl ('Aldgislo rege'). He does not disclose, however, where this king resides. Eddius does mention a 'pallatium' where Aldgisl some time later attends to a number of envoys sent by the Frank major-domo Everwin, who unavailingly request of the Frisian king the extradition of his Anglo-Saxon guest. Also, Beda, in his Historia Ecclesiastica (completed in 731) reports Wilfried's sojourn in Friesland: 'flante Flavonio pulsus est Fresiam, et honorifice susceptus est a barbaris ac rege illorum Aldgilso'.

In the year 688 another Anglo-Saxon cleric, Wigbert, undertook a journey to Friesland, this time with the express intention to christianize the Frisians. Wigbert, however, found the Frisian soil less prepared than might had been expected on the basis of Wilfried's experiences. Perhaps this may, among other things, be ascribed to the fact that Wig-

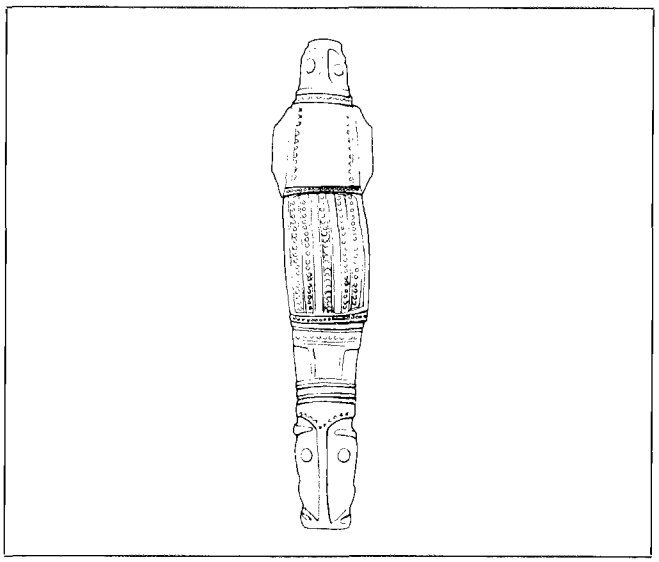


Fig.1. Bronze mantle brooch from the terp of Westerwijtwerd (Groningen). 6th century A.D. Scale 1 : 2. Groninger Museum, Groningen.

bert did not meet Aldgisl but another Frisian ruler by the name of Radbod, whose indispensible support, as it appeared, did not materialize. Also, as a matter of fact, we do not know whether Radbod was the successor of Aldgisl or whether Wigbert had arrived in a different part of Friesland than had Wilfried. After two years, Wigbert became discouraged and – without having achieved anything – returned to his monastery in Rahtmelsigi. 'Wictberct', quotes Beda, 'ascendit navem, et Fresiam perveniens duobus annis continuis genti illi eius Rathbedo verbum salutis praedicabat, neque aliquem tanti laboris fructum apud barbaros invenit auditores'.

Wigbert's abbot, Egbert, nevertheless did not despond and still in the same year dispatched a whole group of monks, twelve in number, to Friesland: 'in quibus eximius Wilbrord presbyteri gradu et merito praefulgabat'. It may be possible that this unexpected move came as a result of the shortly-preceding defeat of the same king Radbod (near the city of Duurstede) by the major-domo Pippin, as a consequence of which the former had been forced to concede the southern part of this territory. Thus, in this region new frontiers suddenly opened for a mission among its inhabitants. Beda as well as Willibrord's biographer, Alkwin, have shed their lights on the arrival of Willibrord, Alkwin thereby creating the impression that Willibrord set foot ashore at Utrecht and there came upon a 'castellum' that was held under occupation by king Radbod. When Willibrord found out that nothing could be achieved here, he is alleged to have made his way to Pippin who could be dealt with more successfully. Beda, however does not mention a meeting between Radbod and Willibrord, but relates that Willibrord turned directly to Pippin, who allocates to him as field of labour a part of Friesland called 'citerior Fresia', which had been conquered from Radbod shortly before then: 'quia nuper... expulso Rathbedo rege, ceperat'. This reading by Beda can be completely reconciled with another notation written by Willibrord himself on an 'Echternach Kalendarium', according to which he in the year 690 'veniebat ultra mare in Francia' – hence, not 'in Fresia'. Possibly, Willibrord and his companions had disembarked at Antwerp, from which city Willibrord could easily travel over the Zealand as well as the Flemish coastal regions and also the bordering Brabant. At any rate, Willibrord already at once acquired the SS. Peter and Paul church in Antwerp, while we can plainly trace his footsteps in Brabant.

Although Pippin already in 690 did agree to Willibrord's first undertaking a trip to Rome so as to receive the papal benediction and also to establish close contacts between the Holy See and the mission among the Frisians, in 695 this line was extended by the consent of Pippin when Willibrord received the 'pallium' in Rome and was consecrated archbishop over a then still undetermined region. This territory was thought to have coincided with that inhabited by the Frisians. A truly national diocese which – in due course – could be subdivided again into suffragan dioceses. Pippin supported Willibrord to capacity and in 695 granted him the royal domain at Utrecht, consisting of what was left of the local former Roman castellum, in order that the cathedral could be built there: 'in castello suo illustri, quod antiquo gentium illarum verbo Wiltaburg, id est Oppidum Wiltorum, lingua autem Callica Traiectum vocatur', as quotes Beda. It is questionable however, whether Beda is right in every respect here, since the name Wiltenburg in later times appears to be attached to the hill of ruins of the nearby Vechten (the Roman Fectio) which – as a matter of fact – was also included in the grant by Pippin. And, besides, more such gifts were to follow, for evidently all former Roman fortresses along the Crooked and the Old Rhine formed part of the Merovingian royal demesnes. This was the reason why the major-domo's of Arnulfingian lineage had these territories at their disposal. Irrespective of this, Pippin at Utrecht only reacted to a former state of affairs that had been upset by Radbod, for king Dagobert I (623–638) already had had a church built within the walls of the

Utrecht castellum, which – including the castellum itself – he had presented to bishop Kunibert of Cologne on the condition that the latter would see to the christianization of the neighbouring population. A good century later this arrangement proved a serious threat to the continued existence of the Frisian diocese.

The scene of the battle fought between Pippin and Radbod, taking place shortly before 690, is more accurately defined by an item in the chronicle by Fredegarius, a writing which is taken to have been concluded in 736. This chronicle mentions as chief issue of the final combat the 'castrum Duristate' (i.e. a stronghold in the vicinity of the present-day small town of Duurstede) situated at the bifurcation of the Rhine and Lek rivers, and possibly the same as the 'Fresdore' mentioned two centuries later in the oldest estate registry by St. Martin of Utrecht. The 'Annales Mettenses priores', a compilation completed in the year 805, unjustly distinguish two campaigns and make apparent that Radbod had been guilty of repeated invasion of the Frank empire. The destruction of Dagobert's chapel at Utrecht might indeed be an indication of Radbod's greed for conquest. However it may have been, from the year 690 Pippin in any case succeeded in maintaining as dividing line the old boundary along the Rhine, from Duurstede down to the sea, which still just included Utrecht situated on the left bank of the Rhine. Although the Frank sources of recorded history, contrary to those of the Anglo-Saxons, consistently refer to Radbod as 'dux', but not 'rex', the information that Pippin thought it necessary to seek counsel with the highest court of the land and to levy the 'exercitum universalem Francorum' before daring to take action against Radbod, clearly hints how formidable an opponent the Frisian monarch was taken for. Moreover, the 'Liber Historiae Francorum' (concluded in 727) submits the information that 'Radbodus gentilis', against whom likewise the 'Suevi' and various other peoples Pippin took to the field, had nevertheless been found worthy of presenting the hand of his daughter Theudesinde to Grimoald, Pippin's youngest son, who was in the year 701 accorded the title of 'maior domus': 'Habebat igitur Grimoaldus uxorum in matrimonium nomine Theudesinde, filiam Radbodis ducis gentilis'. Whatever Radbod's kingship had been modelled after, we do not know. Tacitus in his time already claims that the Frisians had a kingdom of their own, as is evident from the renowned story of the 'reges' Verritus and Malorix, under the leadership of whom a group of Frisians set out to build up a new livelihood. However, two 'reges' are mentioned here, while Radbod is thought of having absolutist leanings and his power among the Frisians seems nearly unlimited. Already shortly afterwards, tradition has it that he is of Danish descent. We will revert to this, further in this writing.

Pippin's death in 714 gave occasion to a fierce conflict within the Frank empire, in which Radbod did not stand aside but at once made an attempt to reconquer the lost 'citerior Fresia'. When the Anglo-Saxon Benedictine monk, Winifred (who later would adopt the name Boniface), in the year 716 landed at 'Dorstet' (Duurstede) expecting to be able to contribute in the christianization of the Frisians, he came to realize that he had arrived at a most inopportune point of time, as a war was then raging between Radbod and Charles Martel, the latter being a bastard son of Pippin's. Grimoald was assassinated at Liège shortly after the death of his father, and – much to the dismay of other legitimate descendants, Charles had succeeded in making himself the head of the Carolingian party. Theudesinde is never mentioned again, nor are the descendants – if any – born from her marriage to Grimoald. The very youthful but gifted Charles initially was no match for Radbod, particularly since the latter had joined forces with Raganfred, the leader of the Frank insurgents. The entire region to the south of the Rhine and Waal rivers fell again into the hands of Radbod. For the rest, we are informed in 726 of a certain Everhard of Merm (at Elst in the Betuwe), whose estates had already been seized by king Childebert IV (694–711) since he had conspired with the 'infideles foris patria', by which very likely must have been meant Radbod and his followers. Several cloister annals moreover report, as did the 'Gesta abbatum Fontanellensium', that Radbod in the year 716 pushed on to Cologne while making use of ships: 'Eodem denique anno venit Ratbodus dux Fresonum navali ordine usque coloniam urbem. Contra quem Karolus, sagacissimus exarchus, bellum instauravit'.

Boniface was undaunted enough at first to travel on to Utrecht in order to meet king Radbod. Although 'rex Raedbodus', as he is referred to by Boniface's biographer, Willibald, did assent to an interview, Boniface was compelled to return to England without having achieved anything. Meanwhile, the churches in 'citerior Fresia' were burnt down, the priests were driven out, and conditions of before the year 690 were restored. Although Charles Martel regained complete control of the situation in the years 717 and 718, we are not informed of whether Radbod had to clear 'citerior Fresia' – including Utrecht – for a second time. It goes without saying that in this matter no importance can be attached to the well-known Frisian legends that were recorded only much later, which mention the expulsion of Radbod from Friesland and his flight to Denmark after Charles had succeeded in overtrumping him by

a trick. In the 15th and 16th centuries – possibly even before then, yet literary tradition does not go back that far – people used to point out at the Kiester Tille (a bridge between Franeker and Achlum) the site where the armies of Charles Martel and king Radbod were alleged to have stood facing each other, their leaders both hesitating to set off the battle. Meanwhile, their men thought it wisest of all things to have the leaders themselves make the decision as to when to attack. Hence, Charles and Radbod agreed to a contest. The one who could stand motionlessly for the longest time would be declared the victor, whereas the losing party would then have to clear Friesland instantly. When the two champions had eventually exhausted their strengths already for an extensive period of time, Charles Martel suddenly dropped his glove. Radbod, being of court disposition, thereupon immediately rushed forward in an attempt to retrive the glove and return it to Charles. But, in doing so he had forfeited his chance and lost the match. 'Aha', cried out the victor, from which fact the hamlet of Aaksens is alleged to have derived its name. 'Wach mij', the loser exclaimed, which is what the village of Waaksens has to thank for its name. These are indications which give us an impression of the favoritism of these tales, especially in Westergo. Even though the localization of the battle near the Kiester Tille was no mere fabrication and certainly will have been based on a historical event (whichever one that might have been), the biography of Liudger renders much more anchorage. This writing has reached us in various forms from the school of the monastery Liudger founded at Werden on the river Ruhr. Liudger's cousin Alfried has been credited with the writing of the text. Hence, we not only know that Liudger's family originally came from the Utrecht Vecht region, but also that this paternal grandparents, Wursing and Adalgard, secretly fled with their little son Nothgrim to Grimoald so as to escape Radbod who was after their possessions and who would not hesitate whatsoever to violate the rights of other people in order to increase his wealth. Many years later when Radbod felt death approaching and became remorseful for his misdeeds, he requested Wursing to return so as to be reinstated in his rights. Wursing refused however, but sent his youngest son Thiadgrim, born in exile, who was to be the father of Liudger born in or before 742. Radbod died in the year 719, after having suffered from a lingering illness for six years.

Radbod's death made a tremendous impression everywhere. The English abbess Bugga did not hesitate to interpret his decease as a divine sign, witness the letter she wrote on 30th November, 722, to Boniface: 'inimicum catholice Rathbodum coram te consternuit'. Immediately upon receipt of this news Boniface made preparations to sail down the river Rhine to Friesland to realize his original plans. Taking Utrecht as a starting-point, he is engaged, together with Willibrord who had meanwhile left his hiding-place in Echternach, between 719 and 721 on building up the Frisian diocese, which Pippin had already in mind in 695. The 'delubrorum fana' were destroyed and 'ecclesiarum oratoria' founded. When Liudger himself takes up his pen to describe the life of his beloved master Gregory, he tells how Boniface travelled indefatigably through the part of 'Fresonia' situated south of the 'Almare' – the Flevolake of the Romans that had been gradually widened to the Zuyderzee – and stayed subsequently at 'Wyrda in ripa fluvii Reni' – Woerden, 'Attingahem iuxta fluvium Fehta' – in all probability the present-day Loenen on the Utrecht Vecht – and 'Felisa' – Velsen. Willibrord received at that time considerable support from Liudger's family who owned property at Zwesen – 'Suabsna' – and 'Werinon', possibly the present-day Muiderberg, both situated near Utrecht. The remaining part, located more closely to the territory of the Frisians who had remained pagans – the 'gentiles et pagani' – than the other places mentioned, included Velsen, although the Vecht area, 'in australi parte Almari', is described as lying 'in confinio Fresonum', i.e. in the borderland of the Frisians. All evidence shows that in 719 a new era had begun and that for the time being mission did not meet with resistance in the area across the Old Rhine, into which Boniface penetrated as far as Velsen. Besides, shortly after, Charles Martel offered Willibrord considerable presents, whose origin we shall leave undecided. However, we should not leave Radbod without having paid attention to an entirely different source which we have disregarded so far, namely the Vita of Wulfram, bishop of Sens in Normandy. This document, the original version of which dates from the period between 788 and 811 but which was rewritten and amplified during the last quarter of the ninth century, deals with the life of Wulfram, bishop from 693 to 697, who died in the monastery of Fontenelle at the mouth of the Seine in 698. The value of this Vita has been strongly disputed, but is now valued more highly again. Wulfram descended from a prominent Frank family and his voyage to Friesland, where he stayed near Radbod for some time, was prompted by the same intentions as that of Willibrord. Presumably, this was the only voyage by ship he made to Friesland. Afterwards the tents and other equipment that he took with him on his Frisian expedition, which must have taken place between 690 and 693, were displayed in the monastery.

Whereas the Vitae of Willibrord, Boniface and Liudger leave no doubt as regards Radbod's sterness and greed –

Willibald even writes that Radbod proceeded to 'persecutio' of his Christian subjects, and Altfried relates that the ruler did not shrink from murder if riches could be seized – the Vita of Wulfram is much more lenient. Nevertheless he does not spare us the atrocious details of sacrifices of adults and children made in the presence of Radbod. How touching is the description of a sacrifice of two children, brothers being five and seven years old! They had been selected by lot to be tied up on a sand-bar and to be drowned by the rising tide. Among the crowd, Radbod looked on in silence from a hill. As if by a miracle, which was attributed to Wulfram, the children were saved. In spite of the unbearable suspense on the beach Wulfram leaves scope for a human approach: the desperate mother, the children fighting for their lives, the indignant Wulfram, the unmoved Radbod. All the same Radbod is not the monster he seems to be, for he presents Wulfram with the children if he can prove that the sacrifice was not in accordance with the will of the gods. Radbod merely considers himself to be the executor of a task, from which he cannot escape and which has been entrusted to him – perhaps at his birth – by a superior being. He refers repeatedly to his predecessors and relatives, the 'praedecessores' and 'principes'. Apparently, the ties with them are so strong that for their sake he rejects the joys of Heaven, which they – unbaptized pagans – will never be able to share. On the other hand, he permits Wulfram to baptize one of his sons who dies, however, shortly after. Alkwin – the author of Wulfram's Vita knew of the existence of Alkwin's life of Willibrord – depicts Radbod in a similar way. He tells us that Willibrord roused Radbod's anger by desecrating the sacred well and oxen of the island of Helgoland. Radbod nevertheless treated Willibrord and his fellow-travellers well when he had captured them and left them go unhurt after one of them, selected by lot, had been killed as an expiatory sacrifice.

Wulfram succeeded in saving some other young men from being sacrificed – by drowning or strangling. Some of them accompanied him on his voyage back to Fontenelle. According to the legend many Frisians named their children after Wulfram, but there is no doubt that the name of Wulfram remained very rare in the Frisian coastal areas. The story which claims Hoogwoud to have been the place where Radbod was to be baptized dates from a later period. Possibly, Folprandskerke, a settlement deserted since the 15th century and situated in the watery country between Hommerts and Uitwellingerga, might be connected with the name of Wulfram. Oud Hof, now the name of a small lake in the neighbourhood, still recalls the graveyard of this settlement. But it may be safely assumed that Wulfram himself never set foot in this part of Friesland. Not far from Folprandskerke lies the Fetsepoel which is said to have been named after Boniface. In fact, however, Fetse is a frequently occurring Frisian boy's name, albeit that the name is a corruption of Boniface. However, assuming a direct relationship cannot be justified.

The legends about Radbod's palaces at Medemblik, Staveren and Rhenen likewise lack historical authenticity and merely illustrate how much Radbod appealed to the imagination of the Frisians for generations on end. In this way the connection between certain events in Radbod's life and other places, situated throughout the Frisian coastal area as far as Helgoland, should be interpreted. For example, 'Radbodus Hemelrijk' in the Heidenschap near Workum, the Radbod graveyard at Rinnegom near Egmond, the Rabbelsberg near Dunum in the eastern part of Friesland where he was said to be buried sitting in a chair, or the Rapelsberg in the Waplinger Moor between the Friesische Wehde and Ammerland where Radbod was said to haunt the moors at night as a vicious old man. But this is not all yet, for certain mysterious roads in the eastern part of Friesland are also attributed to Radbod. A veil of mystery surrounds the aim and construction of these so-called Konrebbers-roads. These roads, as well as the nature of the Rapelsberg – an earthen fortification from the 12th or the 13th century – show that many legends concerning Radbod cannot have come into being before the late middle ages. For, the Konrebbers-roads are clearly connected with the marking out, drainage and damming up of the 'hemrikken' and would never have remained intact, had they been situated in an area not protected by dikes.

We only know the approximate extent of Radbod's kingdom. The 'citerior Fresia' which was seized from him shortly before 690, presumably extended from the Old Rhine to the Scheldt, may be the Sinkfal or Zwin. One might easily identify the 'citerior Fresia' with the southern half of Willibrord's Frisian archdiocese, which was separated from the dioceses of Cologne, Tongeren and Doornik by the Rhine, Waal, Meuse, Striene, Scheldt and Honte rivers. These dioceses had been modelled after the Roman 'civitates' of the Ubii, Tungri and Menapii. However, Willibrord's diocese, in so far as it extended south of the 'limes', comprised a larger territory than that of a single 'civitas', like that of the Batavi, Caninefates, Sturii, Marsaci or the Frisiaevones, areas where Christendom had not succeeded in obtaining a footing during the decline of the Roman Empire.

The Lex Frisionum, a colourful collection of Frisian popular laws, which in the year 802 by order of Charlemagne were brought together in one volume within the framework of a

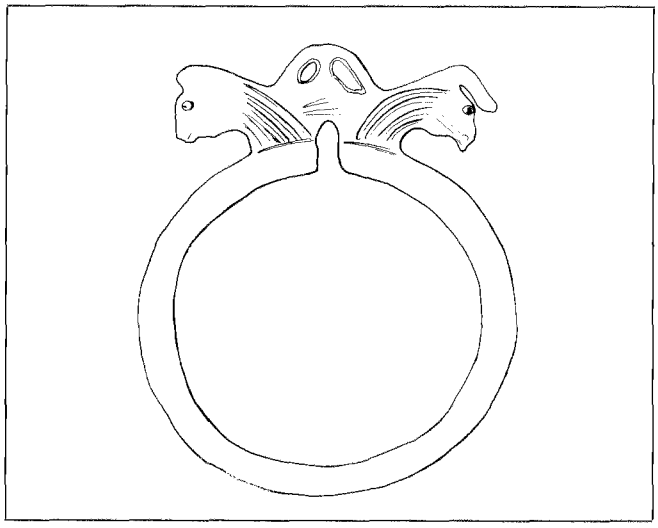


Fig. 2. Bronze belt buckle from the terp of Oostum (Groningen). About 600 A.D. Scale 1 : 2. Groninger Museum, Groningen.

general codification of Germanic law, refers to a ducal court, the 'curia ducis' where the representative of the 'rex' had his seat. There is no doubt that the area ruled by this Frisian 'dux' extended from the Sinkfal in the South to the Weser in the East. This can be deduced from marginal notes, gradually incorporated in the original text, which indicate these rivers to be the extreme borders of the Frisian territory. The area was subdivided into the coastal districts bounded by the Sinkfal – the lower course of the Bruges Zwin, from the later St. Anna ter Muiden to the North Sea – and the Vlie, the Vlie and the Lauwers, and by the Lauwers and the Weser. The position which the part of Friesland between the Vlie and Lauwers occupies in the Lex is remarkable, not only for its small dimensions as compared with the two neighbouring provinces, but also since the Lex creates the impression that it applied originally to the part of Friesland between the Vlie and Lauwers and also that it was written with the aid of data collected in this part, and verified afterwards against the often deviating penal provisions in the adjacent coastal areas. Deviations were first written in the margin and subsequently added to the main text.

In accordance with this subdivision – the heart of Friesland being the part between the Vlie and Lauwers seems to have been aim of the attack which Charles Martel (714–741) ondertook in the year 734 with a fleet – 'navium copia adunata' – on the part of Friesland across the Vlie. The 'Continuatio' to Fredegarius' chronicle further mentions that this attack was directed against Oostergo and Westergo, two islands situated on either side of the river Boorne, on whose banks the enemy landed: 'Unistrachia et Austrachia insulas Frigionum penetravit, super Bordine fluvio castra ponens'. The Frisian commander, 'Bubo gentilis dux illorum fraodolentus consiliarius', met with his death. Fredegarius further relates that pagan sanctuaries, or 'fana', were set on fire. Loaded with rich spoils Charles finally withdrew. Although not expressly stated, it may be safely assumed that the conquered land remained occupied and was annexed to the Frank Empire.

Twenty years later this part of Friesland was again in the centre of interest. Boniface, depressed because of his failure in Germany and above all worried about the future of the Frisian archdiocese, which after Willibrord's death in the year 739 had lost much of its importance and seemed now ripe to be incorporated in the archdiocese of Cologne, in accordance with the intentions of bishop Kunibert, appealed to his rights as a Papal Legate and travelled during the latter part of the summer of 753 to Utrecht to safeguard the Anglo-Saxon inheritance in Friesland. Since he had disputed the Cologn rights on the grounds that Kunibert nor his successors had fulfilled Dagobert's stipulation that the Frisians should be converted, he felt obliged now to complete the work that Willibrord and he had started and he did not hesitate in spite of his age – he was almost eighty years – to sail to the remote corners of the Frank Empire. Liudger reports in his Vita of the Utrecht abbot Gregory his meeting in Utrecht with Boniface during this period. He was grey, bent with old age but unbroken in spirit, a great man indeed! Before the winter set in, Boniface returned to his beloved Fulda, the monastery he founded in 744 on the banks of the river of this name. But in the spring of 754 he was already back in Utrecht, impatient to utilize the twilight of his lifetime. For he anticipated his death and had taken his shroud with him from Fulda.

Again Boniface sailed 'trans stagnum, quod lingua eorum dicitur Aelmere', until he reached the 'aquosa Fresonum arva' on either side of the 'flumen qui dicitur Bordne, quod est in confinibus eorum, qui rustica dicuntur lingua Ostor et Westeraeche'. Undaunted he everywhere destroyed the pagan sanctuaries or 'delubra' – 'numine defracto' says Willibald, which might point to the presence of idols – and replaced them by 'ecclesiae'. Large crowds of men, women and children were baptized by his suffragan Eoban and there were no indications whatsoever that he would not live to see the crown on his work, the confirmation, for which he summoned all on the Saturday before Easter. But the

ceremony never took place. Everybody knows what happened on the 5th June, 754, against daybreak. The rumour of Boniface's visit seems to have spread also beyond the Lauwers, for from Humsterland came a gang of robbers, armed with lances and shields, who, hoping to find valuables and wine, suddenly attacked Boniface's encampment erected near the mooring-place of his vessels. Boniface ordered the 'pueri', the escort, to give up their resistance and it was not long before 52 men had been killed. Willibald does not mention the exact place, but the Anonymus of Utrecht, who about half a century afterwards travelled to Friesland to inform himself of Boniface's death, writes in his Vita II that the murder was committed 'in loco qui Dockinga dicitur', which agrees with a remark in a Fulda goods register, originating from the period between 929 and 956: 'Tochingen, id est ubi scs Bonifacius passus est'. Besides, Anskar, bishop of Bremen and author of Willehad's Vita, mentions the 'locus, qui dicitur Dockynchirica, quod est in pago Hostraga, ubi et dominus Bonifacius cum martirio coronatus est'.

Afterwards, in the reed along the bank the books were found, left there by the disappointed robbers. Among them was the codex, cleft by sword-strokes aimed at Boniface's head. For centuries on end the codex was a cherished relic, first preserved in Dokkum and later, after the Reformation, in Fulda.

Dismay was universal and spread over the whole of the Frank Empire. Soon after Humsterland was invaded from Dokkum, which formed the introduction to the annexation of the coastal areas beyond the Lauwers. We further learn something about a man named Abba, a 'praefectus' or commander, who on behalf of king Pippin (741–768) ruled the 'locus' of Dokkum and the neighbouring 'pagus', the two Dongeradelen named after Dokkum. Under his supervision a 'tumulus' or hill of sods was raised above the field of torture in order to obtain a place protected against floods where a memorial church with a monastery could be erected. Excavations undertaken in the Boniface year 1954 and continued in 1965–1966 revealed that this hill is located under the present-day Dokkum market-place.

From Dokkum, too, christianization of the coastal areas between the Lauwers and Eems was completed. In the year 772 the Anglo-Saxon Willehad settled in this region, after having consulted abbot Gregory of Utrecht. It is characteristic of the devaluation of the Frisian archdiocese that Gregory was never consecrated bishop and that his successor, Alberik, had to admit Boniface's failure by allowing himself to be consecrated bishop by the Cologne archbishop.

Some years later Willehad believed to forsake his vow if he failed to leave Dokkum and did not venture into the pagan area across the Lauwers. His impetuous behaviour nearly cost him his life, but some self-composed Humsterlandmen saved him from being tortured to death and enabled him to take refuge in the adjacent Drente. He presumably settled in Groningen, the old chief town of this country, but here too, he was not to stay for long because king Charles, Pippin's son (768–814), sent him to Wigmodia, on the right-hand side of the Weser mouth, where a vigorous effort had to be made to christianize the Frisians and Saxons living in this area. As early as 787 the diocese of Bremen was instituted, comprising in addition to Wigmodia some other coastal areas on either side of the Weser, such as Riustringen, Ostringen and Harlingerland.

Willehad's place in Dokkum was taken by Liudger, who had been taught by Alkwin in York for years and had already gained some experience in mission work in Deventer among the Saxons. Here he could build on the foundations laid shortly before by the Anglo-Saxon Liafwin. In consultation with Gregory the latter had settled in De Wilp, on the left bank of the IJssel, and looked with envious eyes at the other side. For, at the time the IJssel was regarded as the border between the Frank Empire and the territory of the Saxons who had for the greater part remained pagans. Liafwin had succeeded in obtaining a firm footing among the Saxons and built a church in Deventer, in those days a rapidly developing commercial town. It has even been supposed that Liafwin used the name of his native town, the English Daventry, for his new residence. A century later the Annales Fuldenses, describing an attack of the Norsemen in the year 882, called this place a 'portus', 'qui Frisiaca lingua Taventeri nominatus, ubi sanctus Liobomus requiescit'. Apparently, the name of Deventer was then considered as peculiar as it is now. However, Liafwin was not left in peace in Deventer, for a group of pagan Saxons crowded together, forced the Englishman to flee across the IJssel and reduced his church to ashes. But after their retreat Liafwin returned and rebuilt the church where he found his last resting-place in 774. But again the pagans returned, again they burnt down the church and made frenetic – but unsuccessful – attempts to find Liafwin's grave. The reason for these efforts cannot be traced. Liudger, who was sent from Utrecht to Deventer to re-erect the church for the third time, could not find the grave eiter until the place was revealed to him in a dream. The foundations of boulders which had already been laid were removed to enable the grave to be included as yet within the church walls.

Subsequently, Alberik sent Liudger to certain parts of Friesland to destroy the idol temples and places of sacrifice still

maintained there. Liudger found large quantities of valuables which he transfered to Utrecht without any difficulty. Two thirds of the treasure went to the king and Alberik was allowed to keep the rest for his mission work. Presumably, these sanctuaries had served for many centuries to preserve offerings and war-plunder.

There is no doubt that this story has contributed to the formation later in the middle ages of legends concerning idols preserved in St. Mary's church of Utrecht, brought there by Liudger. Naturally, people knew of idolatry in Helgoland where Fos(i)te was worshipped and where traces of Christendom had been left by Willibrord and Liudger. There are indications that there has also been such a temple in Fivelgo on the dwelling mound of Rottum, from where Liudger also took a fair amount of valuables. The bronze statuettes in question were preserved and are now in the Amsterdam National Museum, but to our conviction they date from a much later period – the 11th century – and formed part of a monumental candelabrum presented by Emperor Henry IV on the occasion of the consecration of St. Mary's church in 1099.

A closer link with Frisian paganism are of course the graveyards dating from the early middle ages, scattered all over the seaboard. Whereas the Frisians seem to have shown an initial preference for burial – in the deepest layers of the terps people have even been found buried in a squatting posture – in the course of the 5th century cremation was introduced besides burial. The ashes were buried in earthen urns, often also containing jewelry damaged by the fire, in particular cloak pins. But this jewelry was also found on bodies buried in coffins made from tree-trunks. Keys found in the coffins characterized the housewife; lance, sword and shield the soldier. The introduction of Christendom is demonstrated by the disappearance of the urns, while the direction of burying the wooden coffins, predominantly north-south, changes into east-west and the objects burried along with the bodies gradually disappear. Finally, the erection of churches leads to the lay-out of graveyards elsewhere, for the churches were preferably built in the centre of the village terps or in a place situated favourably with respect to a number of surrounding hamlets, whereas the pagan graveyards were located more eccentrically, sometimes even on a separate elevation outside the village or hamlet. Many a pagan graveyard possessed the character of a family vault, not that of the entire village community.

The Lex Frisionum contained provisions in connection with temple desecrators and temple thieves who were threatened with castration and being drowned in the sea.

Liudger was to stay in Dokkum for seven years, from 777 to 784, except for the three autumn-months every year when he taught at the convent-school of Utrecht.

In the winter of 784–785, however, the Frisian coastal districts as far as the Vlie got involved in one of the numerous revolts of the Saxons against Charlemagne. Charles Martel already had waged war with this people, still during the reign of king Radbod, while a 'rex Frigionum', about whom little is known, is said to have rendered king Pippin assistance in the year 748 when the Saxons — as usual, it says in the imperial annals – had failed to meet their fiscal obligations. However, since the year 782 they were headed by an extremely capable leader, the Westphalian Widukind, who proved quite troublesome to Charlemagne. This very Widukind also managed to bring the Frisians, that is, certain groups among them, under his influence. As a result the Carolingian rule over these areas was swept away, all churches were reduced to ashes and the clergy had to flee. Liudger, too, could not stay and it was not before 787 that he found an opportunity to continuing his work. In the meantime he travelled to Rome and stayed in the abbey on the Monte Casino for two years. Willehad had to flee as well and awaited better times in Utrecht.

In 789 Charles had more or less regained control over the situation, and so he could make preparations for a campaign against the Slav people of the Wilts across the Elbe. To Charlemagne's auxiliary forces belonged also Frisians and Saxons; the former mainly to man the ships, heavily loaded with equipment, which Charles sent up the Elbe and subsequently along the Havel in order to enable him to advance as far as Pommeren.

The Frisians' share in this campaign had proved so valuable that they were summoned once more, this time to man a fleet on the Danube. This fleet played an important role in Charlemagne's campaign against the Avars, inhabitants of the present-day Hungary, which was undertaken in the year 791. This Frisians were also incorporated in the land-forces. They made the journey south and back to Friesland on foot under the command of a certain count Diederik.

In 793 Charlemagne prepared another campaign against the Avars. Once more he ordered the Frisians to assemble under the command of count Diederik and to advance southwards. Unexpectedly however, Charlemagne completely lost control of the situation: the Saxons proved unreliable after all and some of them made common cause with revolting Frisians at the mouth of the Weser. As instigators the two Frisians Unno and Eilrad are mentioned. They ambushed and scattered Diederik's army and killed its commander. That Charlemagne took this setback very seriously appears from his decision to cancel the entire campaign.

In 787 Charles had already taken measures aimed at enlisting the church's support in his attempts to gain a strong foothold among the Saxons and their Frisian neighbours between the Lauwers and Weser. The first measure was the institution of the diocese of Bremen which has been referred to before. However, in the west this only extended to Harlingerland, a large area as far as the Lauwers remaining uncovered – Humsterland, Hunsego, Fivelgo, Emsego, Federitgo and the island of Bant, with the Frisian Islands off the coast. However, in 787 Charlemagne had allocated the districts to Liudger and when the latter was charged with the institution of a new diocese in his turn – 804 – all these areas, on both sides of the mouth of the Eems, were incorporated in the new diocese of Munster, although they were separated from the centre by the dioceses of Utrecht and Osnabrück. However, matters did not go so far that for the same reason Drente, where Willehad had been the first to preach the gospel, became an enclave of the diocese of Bremen as well. Presumably, the ties with Utrecht, which were rather strong – witness the patronage of Drente's cathedral of St. Martin in Groningen, probably founded by Willehad – will have prevented this. During the insurrection of 793 a man known as Bernlef acquired a certain fame in the Frisian parish of the diocese of Munster. The wondrous curing of Bernlef in Uskwerd, Fivelgo, by Liudger, who rid him of his blindness, is among the most vived parts of Altfried's writings. We read that Bernlef was a welcome visitor to banquets because like no one he could captivate his audience by celebrating the heroic deeds of the 'reges antiqui'. In all probability his repertory was of the same nature as the Beowulf epic, in which even a 'fresena cyng', called Finn, occurs.

From other sources, too, we know of the existence of this, rather obscure, ruler, who was married to a Danish princess. Apart from the Frisians this king also ruled the Jutes. The tragic battle between Frisians and Jutes on the one hand and Danes on the other, fought in the royal castle 'Finnsburuh', has apparently given rise to a wide-famed story, the scene of which may have been partly the actual Friesland, partly one of the islands off the west-coast of Sleswick. At least this can be deduced from the legend which mentions Sylt as the place where King Finn's fortification was located. This is hard to reconcile with the facts known from any historical source, but on the other hand it agrees with Alkwin's claim that Radbod's realm extended so far north that it even comprised Helgoland. Besides, we shall discuss another elucidating point in this connection, namely the claims laid by a Danish king in the year 810 on Friesland and Saxony, so that the Frisian legends which relate that Radbod was of Danish origin need not have been purely imaginary.

We shall now revert for a minute to Bernlef. In the absence of priests – fled from the Saxons and their Frisian allies in 793 – Bernlef, acting under the instructions of Liudger, had taken great pains to baptize infants in order that their souls be saved, should they die before the priests could return. In this part, dealing with the meeting between Bernlef and Liudger, we also learn something about Liudger's stay at the house of a woman called Menswit, who had sent for Bernlef. Her house was situated on the terp of the hamlet of Helwerd, which was Liudger's destination. Afterwards he travelled to Uskwerd, where Bernlef was cured and he clearly could distinguish the houses and trees from the next village, Warfum. Liudger used to travel on horseback, like Willibrord before him. These human details suddenly bring the Frisian people of this time much closer. Besides, they constitute a welcome addition to the knowledge obtained by studying the Frisian settlements of this period, situated mainly on mounds raised by man in view of the frequent inundation of the unprotected clay land between the Wadden Sea and the diluvial sandy soil with its foreland of almost impassable, still undeveloped peatcountry.

In spite of these inundations and the resulting salination the clay soil, inhabited mainly by the Frisians, was extremely fertile and gave rise to a flourishing cattle-farming industry. The cattle-farmers possessed large, well-equipped farms, which for considerations of safety were built on the elevations mentioned before, at first called 'wierden'; later the word 'terpen' is found. The former word is connected with the terms 'isolation' or 'enclosure'; the latter might refer to 'fenced-in ground'. So neither term actually refers to the characteristic property of these mounds, namely the state of being elevated. Nor can these terms be actually called basic Frisian words, although afterwards they have of course been ascribed to Friesland.

When the terp settlements consisted of several farms, these hamlets showed a radial lay-out, the stable doors, located on the short end of the building, pointing away from the centre. Round the hamlet ran a circular road, the ox-road or 'axwei'. According to the legend the word 'ax' in this term would be the word ax = axe, this being a symbol of the legal protection which the inhabitants enjoyed within this circle which the Frisians regarded as magical. According to Old-Frisian tradition – which as appears from excavations occured throughout the coastal plains from the Vlie to regions across the Eider – the residential part and stables were, already several centuries before the Christian era, combined under one roof to a tripartite elongated building,

and the haystack, in the absence of a barn, located outside the house. This type was maintained since till the 18th century, while the Frisian farmhouse of our days is its immediate descendant. As a rule, on the top of the terp a pond for drinking-water was found, the 'dobbe' or 'feit', or 'fait' as it is called across the Lauwers, 'feting' in North-Friesland and 'vaete' in the Zealand ring-villages.
All round the terps extended 'fennen', the pasture-ground where the cattle grazed. Horned cattle, for sheep-farming never acquired much significance. Beyond the 'fennen' lay finally the 'meden', where the hay was harvested and the young cattle grew up in summer and autumn. Agricultural land was only found on the slopes of the terps or some hillocks formed by silt deposits, usually called 'houwen', where the farmers hoped to harvest peas, beans or some summer-corn before a single spring-tide or gale destroyed all their work. Land ownership was known on the terps, albeit that the land was owned by families rather than by private individuals. Outside the terps, where the 'hemrik' began, the land belonged to the village or hamlet as far as the borders of the 'hemrikken' of the next settlement. These borders were in general determined by natural watercourses, but later they were usually formed by ditches, the 'hemrikmaren' or 'hemrikmeren'. There was an arrangement for the use of the 'hemrik'pastures, which usually implied that every farm of the village or hamlet was entitled to graze a certain head of cattle – this number sometimes differed from community to community – on the common pasture ('meenschar') and to a certain number of cartloads of the jointly harvested hay. When the hay had been harvested, the farmers could drive their cattle on the stubble-fields. By the festival of St. Martin the cowherds finally returned to the winter-stables. 'Hemrik'-roads enabled them to rapidly reach the shelter of the terps at spring-tide.
An area difficult to penetrate, whose inhabitants had to work hard to earn their relatively great prosperity and their independence. All the same they, too, were not spared the misery of the plague that so much characterized the period that now follows.

II

Imperceptibly, 'Wahrheit und Dichtung' round the Frisian kings lead us to an era which we usually call the period of the Norsemen. Altfried, Liudger's biographer, pretends that Liudger had already beheld this almost endless plague of Nordic invasions in a vision when he stayed at his favourite estate on the coast near Muiden.

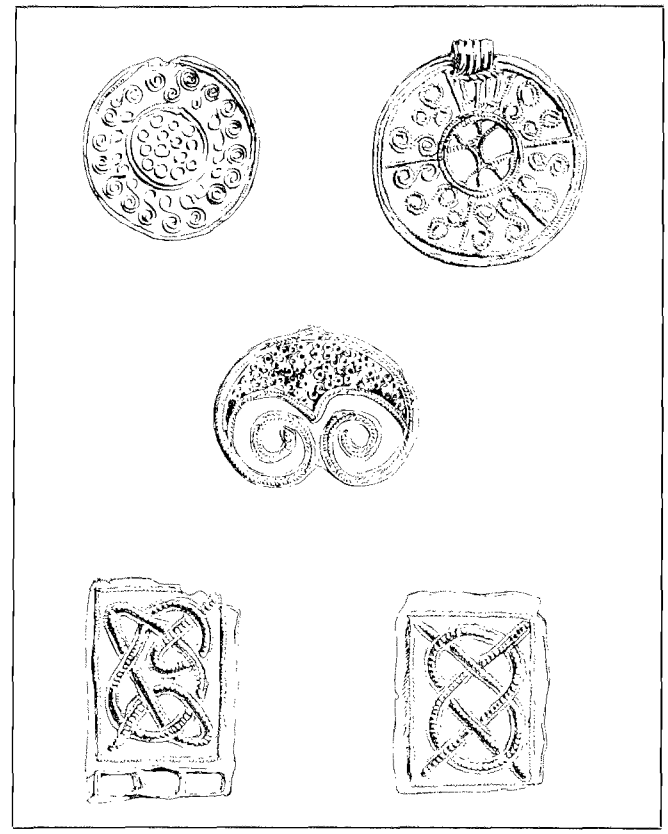


Fig. 3. Gold pendants from the terps of Marsum (Groningen), Wierum (Groningen) and Krassum (Groningen). 7th century A.D. Diam. 2.4, 2.9, 2.7, 2.1 and 1.9 cm. Groninger Museum, Groningen.

The Frisian coastal districts had already been the aim of robber gangs long before. A source often quoted in this connection is one of the writings by the Italian eulogist Venantius Fortunatus, in which he celebrates the heroic deeds of the Frank Lupus, or Wolf, duke of Champagne and general of king Sigebert, since 561 ruler of Austrasia, the eastern part of the Frank Empire. Lupus had managed to gain a victory over a combined Danish-Saxon landing-force on the banks of a river called the 'Bordaa', which is thought to refer to the Boorne river. Apart from the improbability of a Frank king sending in this year an army to these remote and uncertain regions with such a precarious commission, it would seem very plausible that in reality the 'Bordaa' was quite a different river, perhaps the Bordene which one time was one of the Zealand delta streams.
Earlier still – somewhere about 530 – the invasion of the

Danish or Swedish ruler 'Chlochilaichus rex' took place, recorded by Gregory of Tours. This must have been the same hero as Hygelac, whose deeds are described in the Beowulfsong. In this song Hygelac, after having gone ashore, fights 'Frysa' and 'Hetware'. Gregory only mentions the 'Attuarii' in this connection and writes further that the battle was fought in the territory of king Theoderik and that his son Theodebert finally gained the victory and killed Hygelac. A source from the tenth century, the Liber Monstrorum, states that the bones of the giant Hygelac were bleaching at a place not far from the mouth of the Maas, which gives us anyway a fair indication of the location of the battlefield.

To a certain extent the Carolingians themselves gave rise to the scourge of the Norsemen. Charlemagne had set his mind of the wide plains across the Elbe, whose inhabitants, peoples consisting mainly of Slavs, in the first place the Abodrites, proved willing to establish friendly relations because they felt threatened by the Danes. Godfried, the Danish ruler, believed the best thing to do was to anticipate Charlemagne and undertook a campaign against the Abodrites in the year 808. Now Charlemagne had found a pretext for further expansion beyond the Elbe and had a fortification built on the southern bank of the Stör, where now Itzehoe is situated. This fortification served to defend the territory already occupied but also as a base for further operations. Troups and equipment for this fortress arrived largely by boat from Gaul and Germany – 'per Fresiam'. Besides, a considerable effort was put into the building of a large fleet in Ghent, destined partly for the transport to this remote outpost, partly to combat the rapidly increasing nuisance of Danish piracy. Godfried, a very capable man, did not allow himself to be eliminated and resorted to a very doubtful counter-measure. In 810 no less than 200 Danish vessels steered with evil intentions for the Frisian coastal districts and made the unsuspicious inhabitants pay heavily for Charles's audacity. On this occasion we read for the first time the words so often repeated afterwards about catastrophes which hit 'totas Frisiaco litori adiacentes insulas'. Moreover, heavy levies were paid in silver money to buy off greater disasters. And although countless invasions were to follow afterwards, in the Frisian legends Godfried has lived on as the Norseman 'par excellence'. Besides, he is said to have been a grandson of Radbod's, eager to reconquer Friesland. Godfried, emboldened by the success of this raid, boasted to advance on Aachen with a large army, unless Charlemagne left the whole of 'Frisia et Saxonia' in his possession, to which he thought to be entitled. However, a murderous assault relieved Charles of this danger. Louis the Pious, who had succeeded his father in 814, cleverly availed himself of the dissension arisen after the death of Godfried's successor, Harald the Old, in the year 812. As early as 807 two Danish princes, Harald and Hemming the Young, had been forced to flee from Godfried and had been admitted at the Carolingian court. Before the year 812 elapsed, Harald and Hemming succeeded in returning to Denmark, but in 813 they were forced to flee again, this time from the sons of Godfried. However, Harald continued to stir up trouble abroad, while Louis turned a deaf ear to a request of Godfried's sons to put an end to this. In 817 Louis, who was a diplomat rather than a soldier, had the satisfaction that the Danish pretenders to the throne admitted Harald into the 'societas regni'. Nothing pointed to the Frank Empire being ever threatened with destruction from Denmark.

All the same the equilibrium was extremely delicate, for in 826 Harald thought it necessary to take his whole family, retinue and movables with him when he sailed up the Rhine to Ingelheim to meet the Emperor. From there the Dane and the Emperor travelled on together to Mayence, where Harald an his entire family were baptized in the presence of Louis. The Emperor sent the monk Anskar, orginating from Corvey, along with Harald to Denmark. Anskar was to become the founder of the archdiocese of Hamburg and was to be the first to preach the gospel to the Danes in the famous commercial town of Haithabu, or Sleswick – located at a short distance to the west of the present-day city of this name. From Anskar's Vita we learn very interesting details about the busy commercial traffic via Haithabu between Dorestad and Birka, a small island near Stockholm. Only ships were used on this route, but for a short distance over land between the upper course of the Treene and that of the Schlei. Anskar travelled from Haithabu to Birka in the company of a group of merchants, but at sea they were pillaged by pirates and he was lucky to be able to reach the shore wading. They continued their journey along the shore and finally reached Birka after having endured many hardships. In his Vita Anskar complains of the increasing nuisance of piracy, which occurred apart from the Nordic invasions and which soon entirely disturbed the commercial traffic between Sweden and the Frisian coastal districts. In the meantime Harald had expressed to the emperor the wish to have the disposal of a place refuge near the Danish border in the case of an emergency. Now that he had become a Christian, Louis was entirely justified in investing his Danish vassal with the extensive Frisian county of Riustringen, 'unus comitatus qui Hriustri vocatur'. Situated on the left side of the Weser and traversed by a tangle of delta streams

– Jever was its principal town – it was indeed suitable both as a place of refuge and as a operational base. Harald's example was soon to be followed.

As expected, Harald could not maintain his position in Denmark much longer. In 827 already Horik and the other sons of Godfried drove him away from Sleswick, but Harald could not refrain from making small raids now and then on Danish territory. However, in 852 he was finally captured by Danish frontier guards and killed by order of some Danish chiefs. Even more unfortunate was the fate of another Danish exile, Harald's brother Hemming, 'ex stirpe Danorum', 'dux christianissimus'. A very glorifying title and well deserved because in the year 837 Hemming had to pay for his fidelity to the emperor with his life. Together with Eggihard, count of the 'locus' of Walcheren – the island owes its name to this 'locus' – he met with his death while defending the 'sedicio' located there against an army of landed Norsemen – so compatriots. This 'locus' was a very important commercial centre, which explains the large number of persons killed and prisoners carried off to be ransomed. In the course of the 12th century the whole town fell a victim to the sea, but the famous archeological finds on the Domburg shore, which date as far back as to the Roman era, made even in the 20th century, illustrate its location and significance. Thus, there was a vigorous resistance in 837, but the Nordic invasions had then been going on for some time, and hence these attacks did not come unexpected. For three years before there had been a complete change in the relations between the Frank Empire and Denmark. Before this time, too, Charlemagne and Louis the Pious (814–840) had been prepared for these invasions. They preferred to face them by means of guard-ships, fortifications and constantly guarded look-outs, called 'stationes', 'exubiae' or 'sediciones'. In 833 Charlemagne's biographer, Einhard, had sounded the praises of these measures and expressed his opinion that the danger was now finally averted. But in 834 a fleet of Norsemen appeared before one of the channels between the Frisian Islands – presumably the Vlie –, chose the crowded route to Utrecht and went from there to Dorestad. The Norsemen left no doubt of their objective: both towns were reduced to ashes, the land was pillaged wide and far and numerous inhabitants were carried off as slaves. The story was repeated in 835 and 836, albeit that the Norsemen now attacked Dorestad from the south-west. These developments alarmed the Emperor to such an extent that in 835 he reorganized the coastal defences. Nevertheless he did not deny himself the pleasure of his annual hunting-party in the Ardennes. In the meantime the evil spread rapidly, for in 836 Antwerp and Witla at the mouth of the Maas – the exact place is not known – suffered from attacks. If the inhabitants were not killed or dragged aboard the Nordic vessels, they were forced to pay 'tributa' lest worst befell. In 837 the emperor acquainted himself thoroughly with the failure of the 'Frisiae maritimae custodia'. It was in this year that Walcheren was overrun and Hemming was killed. On this occasion we read that the Norsemen had an intimate knowledge of the position and the strength of the guard-posts and that the Frisians in particular were unwilling to meet their manorial obligations. The occupation of the posts themselves was much too weak to be able to cope with the bands of landed Norsemen. Louis now decided to send 'strenui abbates et duces' to the Frisian coastal districts 'ad comprimendam Frisionum inoboedientiam', to restore order and peace.

In the meantime the emperor received the news that the Norsemen were plundering Dorestad. At once he travelled to Nijmegen and it was believed that this very deed induced the Norsemen to withdraw hastily. It has sometimes been deduced from these events that the Frisians made common cause with the Norsemen from malice to the Carolingian rule. However, this opinion is hard to reconcile with the tremendous sacrifices – both as regards property stolen and persons killed – the Frisians made during the Nordic Invasions. The fear of the ever-threatening danger of an invasion is even reflected in the Frisian laws of the 12th and 13th centuries, although the motive for these laws had been superseded for a long time. On the other hand, the Frisians are known to have sometimes participated with the Norsemen in marauding raids, such as Ubba, who in 868 massacred the inhabitants of Northumberland. In 855 already the same Ubba had together with two Danish chiefs plundered the island of Sheppey. There is some evidence that this Ubba originated from North-Friesland or from one of the North-Frisian islands. At any rate we must make allowance for the possibility that the Frisians had lived in these regions from ancient times or had settled there shortly before the Nordic invasions. The evil of piracy spread rapidly according as the chance of vigorous resistance was smaller and the occasion for easy plunder was better.

Remarkably, the Danish rulers dissociated themselves expressly from these raids and sent repeatedly – king Horik in particular – delegations to testify of their disposition. Presents to Louis the Pious emphasized their good intentions. Nevertheless it did occur that these delegates did not reach their goal because the population, mistaking them for spies of the Norsemen, ambushed and killed them.

On the other hand, Horik objected against the course of the border between Denmark and the Frank Empire, which

agreed with the high-handed behaviour of Charlemagne's generals rather than with the views of the Danes. Besides, he complained of the stubbornness of the 'Frisiani', probably the Frisian colonists on the saltings before the westcoast of Sleswick, who did not bother very much about the Danish sovereign rights. However, Louis rejected these complaints. In the meantime the emperor had favoured two other Danish princes, the brothers Rorik and Harald, cousins of Harald, count of Riustringen, with important military and fiscal offices in Dorestad and Walcheren, respectively, within the framework of the reorganization of the coastal defences. Louis died in 840 and left the empire in dangerous discord to his sons Lotharius, Louis the German and Charles the Bald. At once Lotharius captured Rorik on a charge of high treason. However, the Norseman managed to escape and received hospitality from Louis, who connived at Rorik's efforts to gather a group of compatriots about him to have his revenge on Lotharius at the cost of the population. On the other hand, Lotharius had approached Harald in order to use him against Louis and Charles. Although Lotharius had only received the 'ducatus Frisiae usque Mosam', when the empire was divided in 839 he also annexed the land between the river Maas and the Zwin and invested Harald with the prefecture over Walcheren in the autumn of the year 841. It is on this occasion that a monk laments that the Frank Empire could not have sunk more deeply, christian subjects being delivered by their own kings to the caprices of pagan stadtholders.

So far we have disregarded the principal literature sources referring to the Friesland of the Viking era. These are so abundant in information about the Friesland of this time – for the very reason of the Nordic invasions – that a complete summing up of the facts would carry us too far. In the first place should be mentioned in this connection the Imperial Annals which describe the main events in the Frank Empire from the year 741 to the year 828 inclusive. Besides, there is the famous work of Charlemagne's biographer, Einhard, who found a worthy successor in Theganus, the biographer of Louis the Pious. A second Vita Hludovici was left behind by an anonymous writer. Louis's eulogist Ermoldus Nigellus paid special attention to the annexation of Friesland to the Frank Empire, which was mainly the work of Charles Martel. In his description of the mural paintings in the imperial palace of Ingelheim he refers to a representation of the conqueror of the Frisians, Charles Martel, 'Carolus primus Frisonum Marte magister', painted against the background of his glorious deeds: 'et secum grandia gesta manus'.

Nithard is the principal author describing the dissension and political complications arising after the death of Louis the Pious. In this time the imperial charters too are gradually becoming an important source of information and also several monasteries come into the picture with their chronicles, addresses and goods registers. For, the close relations which Willibrord, Boniface and Liudger had maintained with the Frisian coastal areas were reflected in numerous transfers of property–estates and revenues–from Friesland to Echternach, Fulda and Werden. Shortly after, some monasteries as well, such as those in Lorsch in the Rhineland, Prümm in the Eiffel and St. Bavo in Ghent, shared in the generosity of the Frisian land-owners. Naturally, the oldest of the Utrecht chapters, St. Salvator, was not overlooked. However, it should be borne in mind that many of these gifts were made by members of very wealthy families with vast landed property, which often extended beyond the Frisian borders or which was only a minor part of the 'hereditas' of families not living in Friesland. These families had probably obtained this Frisian property – which may have come into the hands of the Merovingians or their Carolingian successors by confiscation – by marriage or as gifts.

Let us now continue the story of the Nordic invasions. A story which tends to become monotonous and which creates the impression of leading up to a Frisian Normandy. In 850 Lotharius had been forced to tolerate not only that Rorik, supported by a group of Danes, returned to Dorestad, but also that he became the king's stadtholder. It remained to be seen whether Rorik would actually meet his promise of paying part of the tax revenues going with this office to Lotharius and furthermore of defending Dorestad and its surroundings against Danish attacks. These attacks did not fail to come soon, albeit that Dorestad was spared for the time being. In 845, for example, there were three battles between a large Danish army and the gathered Frisians, which eventually ended in a Danish victory. The location of the battle scene is not mentioned, but seems to have been situated in Oostergo. In 846 the Danes conquered 'tota pene provincia' and levied a tribute 'pro libitu', so it says in the 'Annales' of the monastery of St. Bertin. The Annals of Xanthen relate in more detail that first Oostergo and Westergo had been overrun, after which the Danes had sailed on to Dorestad, which together with two other neighbouring towns – Utrecht? – was destroyed. Lotharius had to confine himself to watching the attack from the Palatinate in Nijmegen. Nevertheless there had been some imperial guidance in the battles of 845. For it seems that in any case Harald, Rorik's brother, was killed in these military operations. It is Harald's son Rudolf who was afterwards assigned the task

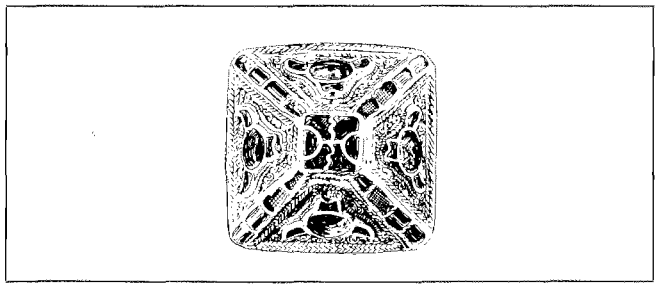


Fig. 4. Gold belt button with almandine decoration from the terp of Ezinge (Groningen). 7th century A.D. Scale 1:1. Groninger Museum, Groningen

of defending on behalf of the Carolingians Walcheren and the mouths of the river Scheldt.

As regards Rorik, Lotharius II, who had been placed in possession of 'tota Frisia' by his father Lotharius I in the year 855, maintained him in the 'vicus Dorestadus' and other feudal tenures. In the same year, 855, Rorik left Dorestad and ventured an attempt to gain the Danish throne, but he had to return without having reached his aim, accompanied by another Danish adventurer, again called Godfried, both of them the firm intention of seizing the power in Friesland. This Godfried, who was soon to make a great stir throughout the Frank Empire, was a son of Harald I, Count of Riustringen. Although he, like his father, had been baptized, he had forsaken Lotharius I and returned to Denmark, from where he participated in marauding raids on the coastal districts on either side of the mouths of the Scheldt and Seine rivers. Among the 'comitatus' which Rorik held in fee was in any case Kennemerland, for this region is mentioned when in the year 882 Emperor Charles III enfeoffed to Godfried the areas fallen vacant as a result of Rorik's death: 'comitatus et beneficia, quae Rorich Nordmannus Francorum regibus fidelis in Kinnin tenuerat'.

The loyalty which the 'Annales Fuldenses' attribute to Rorik, contrary to Godfried, as well as the areas where Rorik preferably resided, are also mentioned in the Vita Adalberti. For it was 'Roricus barbarorum rex' who ordered to remove without delay the dune of fine sand, the 'mons harenosus', which threatened to bury Adalbert's memorial chapel at Oesdom near Egmond. Rorik had even been baptized in 862, but this did not bring about a change in the attitude of his Frisian subjects towards him – they revolted and in the year 867 they succeeded in chasing Rorik away. Lotharius nevertheless allowed Rorik to return with a Danish escort, which casts a vivid light on the impotence of the Carolingians.

The Annales Bertiniani call the Frisians who had revolted against Rorik 'incolae, qui Cokingi novo nomine dicentur'. Gosses explained the name 'Cokingi' as followers of the 'kok' (or several 'Koken'), the leaders of the revolting Frisians. In our opinion Gosses's view is supported by some other information from the same source, which describes how Lotharius I in the year 841 sought the support of the Saxons against his brothers by meeting the grievances of the 'Stellinga'. Nithard further elucidates this point: he explains how Lotharius promised to restore the rights of the Saxons of which they had been deprived by Charlemagne and that the Saxons, thus tempted to revolt, chose leaders to whom they gave the new name of 'Stellinga'. Presumably, the native nobility, ensnared in the feudal nets of the Carolingians, kept aloof and so the Frisians as well as the Saxons were forced to look for other leaders. As a matter of fact the revolt of the 'Stellinga' failed as well as that of the 'Cokingi': they were defeated twice in bloody battles and subjugated by Louis the German. Apart from Rorik's involuntary departure from Friesland in 840 and 867 and his unsuccessful attempt in 855 to obtain a firm footing in Denmark, there was a fourth occasion on which Friesland was rid of Rorik's tyranny for some time. In the year 857, by the consent of Lotharius as well as of king Horik, Rorik equipped a fleet in order to conquer Eiderstedt, which in name was Danish territory. However, during Rorik's absence other Danish chiefs steered for Dorestad which they destroyed, in spite of the resistance offered, and continued their raid in the Betuwe. Among the 'alia loca' pillaged was Utrecht, witness the terms of a charter from the year 858, when Lotharius presented bishop Hunger of Utrecht (before 854–866) the monastery of St. Odiliënberg near Roermond by way of a place of refuge. The same charter states that St. Martin's Church had been destroyed. Utrecht as well as the whole of the surrounding country was to remain a wilderness until the return of bishop Balderik (918–976) from Deventer. But there were also limits to the stamina of Dorestad. Odbert, who described the life of bishop Frederik of Utrecht (820–835) in the first half of the 11th century, called Dorestad, a 'villa, quondum magna', which is in agreement with a charter from the year 948 in which Emperor Otto I confirms to bishop Balderik the rights of St. Martin who originated from this town: 'in villa, quondam Dorsteti nunc autem Wik nominata'. However, Dorestad should not be identified with the present-day Wijk bij Duurstede. This small town was built – on virgin soil – not before the 13th century near the walls of the castle of Duurstede, whereas the Carolingian Dorestad extended to the east and north of the later Wijk bij Duurstede and was

founded on the left bank of the stream which has gradually narrowed to the present-day Crooked Rhine.
Possibly, after Rorik's departure for Eiderstedt in 857, Lotharius did no longer count on the return of the former, for in the year 860 he granted part of the 'beneficium Hrorici', located in the 'villa Gannith' (the present-day Gendt in the Over-Betuwe), to the monastery of Lorsch. This fact has supported the presumption that Rorik and Rurik were the same person. In this very period Rurik played an important role in Russia and participated in the attack on Constantinople of 860.
All the same, Rorik must have made it clear before the year 862 that he had no intentions whatever as to part with his Frisian fees, witness the letter in which Hincmar, archbishop of Reims, requests bishop Hunger to admonish Rorik, the Viking, not to help Count Baudouin of Flanders any longer, now that Rorik had embraced the Christian faith shortly before. For count Baudouin had been excommunicated for having abducted Judith, the daughter of Charles the Bald. Furthermore, bishop Hunger should point out to Rorik in a suitable manner that it would not do either to aid other Norsemen in the preparation of their marauding raids. Obviously, the bishop of Utrecht could not be expected to return to his see under these conditions.
The admonitions for that matter had little effect, for in the year 863 Rorik – the Annales Xantenses call him grimly 'fel Christianitatis', elsewhere 'tirannus' – acted as a malicious intermediary when Danish pirates invaded the country unhampered, pillaged Dorestad for the hundredth time – this took place in the month of January – and chased the merchants driven from Dorestad to another town, presumably Meinerswijk, situated opposite to Arnhem on the Rhine river, which town was subsequently conquered by the Norsemen. The pirates sailed on beyond Cologne and even succeeded in establishing a bridge-head on an island in the Rhine near Neuss, from where they challenged two imperial armies for three months on end. Finally, Lotharius was forced to guarantee the Danes an unhampered retreat, 'consilio Rorico'.
Most impertinent, too, was the behaviour of Rudolf, the son of Harald II and Lotharius' guard at the mounths of the Scheldt river. In the year 864 he extorted such a tremendous tribute from his feudal lord that the latter, in order to prevent bad things from becoming worse, was forced to impose a tax of four pennies on each farmstead in his territory. The tax proceeds had to be supplemented by hay, cattle, wine and spices for the maintenance of the Vikings, who, in anticipation of the ransom, promised to leave the coastal districts unharmed. It now becomes understandable that in the year 867 Lotharius was left no other alternative but to assist Rudolf's uncle Rorik in recapturing his Frisian fee from which the hated Viceroy had been expelled some time previously by the Frisians under the command of their 'Cokingi'.
When, after the death of Lotharius II, according to the treaty of Meerssen of 870 the Carolingian Empire was shared between Louis the German and Charles the Bald, Louis received 'de Frisia duas partes de regno, quod Lotharius habuit' and Charles 'de Frisia tertiam partem'. The border was presumably determined by the Vlie, in accordance with the threepartite character of the Lex Frisionum – of the later additions, that is – with regard to the Friesland bounded by the Sinkfal and Weser. So it was now Charles who, in place of Lotharius II, was saddled with Rorik and Rudolf. In the same year, 870, Charles travelled to Nijmegen in order to conclude an agreement with Rorik first. He succeeded in achieving his aims. In 872 there was a conference in Maastricht with both Vikings. Later in this year the negotiations were resumed in the same town. Not Rorik but Rudolf caused the king considerable difficulties, for his conditions were so preposterous that Charles could not possibly accept them. However, Charles did not venture to captivate Rudolf and confined himself, after the Norseman had left cursing and threatening, to take some precautionary measures. However, these could not prevent Rudolf from starting plundering in the coastal districts of Charles's territory. When he ventured also to invade the part of Friesland belonging to Louis, he encountered unexpected resistance and was killed with more than 500 of his men. The news was immediately reported to Charles who stayed at Angers at the time. Rudolf's death made a deep impression everywhere. The Annales Xantenses state that the dangerous man had been killed thanks to the inhabitants of the Frisian Oostergo and that Rudolf died 'in pago Ostrachia' under conditions which suited the bestial life he had led, unworthy of a baptized Christian. The Annales Fuldenses – well informed of Friesland as usual – describe the course of events more extensively. The monk Meginhard relates how in the month of June of the year 873 'Hrudolfus quidem Nordmannus de regio genere', who had already repeatedly tormented the 'regnum Karoli praedis et incendiis' previously, directed his fleet to the 'regnum Hludowici regis, in comitatum videlicet Albdagi'. Messengers went ashore who claimed 'tributa' from the inhabitants. The population refused to satisfy their demands because they paid already 'tributa' to 'Hldowici regi eiusque filiis' – Louis the German, who had owned the part of Friesland between the Vlie and Weser since 870. Subse-

quently, Rudolf, swearing that he would have the Frisians pay for these 'superbia' by killing all men and carrying off their wives and children as slaves, opened hostilities. The Frisians defended themselves desperately and were so fortunate as to kill Rudolf right in the beginning, whose fate – according to Meginhard – was shared by 800 more Vikings. The Frisians cut off the retreat of the remaining attackers to their vessels after which they entrenched themselves 'in quodam aedificio'. The Frisians beleaguered the building but did not venture an assault, perhaps afraid of the enemy's versatility in warfare. Meginhard hints that Rudolf's defeat can be largely attributed to a 'dux' who was the commander of the Frisians. This 'dux' was not Albdag, count of Oostergo, but someone else, who like Rudolf, was a 'Nordmannus'. At his advice the Frisians avoided a decisive battle, but proposed an armistice which also applied to the crews remaining behind on board of the Viking vessels. The besieged Norsemen were prepared to accept this proposal and returned to their vessels unhampered, on the condition that they would part with the spoils already gathered elsewhere – which had been stored on board the vessels and that they would promise to raid the territory of Louis never again. The observance of this agreement was enforced by the detainment of hostages.

We would very much like to have known the name of the place where all this took place. Perhaps the church in Dokkum was the 'aedificium' where the Vikings took shelter. It must have been a solid and well defensible building, which could withstand a long siege. We suggest Dokkum, not only because it was easily accessible for ships – Dokkum owed its significance to its favourable location and must therefore have been an attractive objective for the Norsemen – but also since it was the seat of the Oostergo government both in an ecclesiastical and worldly sense. In Dokkum one might expect a royal 'dux', capable of raising a small army in a short time which could cope with a group of landed Vikings. Meginhard's description suggests for that matter that the besieged building was located not very far from the Vikings vessels. One is tempted to make a comparison with the events in Dokkum in 754: We emphasized already that the murderers were not after Boniface personnally but rather aimed at the valuables which they hoped to find in his vessels or tents. Finally, the extensive information supplied by the monk from Fulda alone points to Dokkum, which was connected in such a special way with Boniface's missionary work and his last resting-place.

One might compare the Danish 'dux' who in the year 873 organized the resistance against the Norsemen, as may be assumed by order of the king or count Albdag, with the Dane Hemming who in the year 837 was killed together with the Walcheren count Eggihard in the battle against the other Danes. The stay of another count in Dokkum is described in Willibald's Vita, in which we meet Abba, representative of king Pippin, under whose supervision the 'tumulus' was raised for Boniface's memorial church and whose office was defined as follows: 'officium praefecturae secundum indictum gloriosi regis pagum locumque (scil. Oostergo and its principal town Dokkum) gerens et princeps ipsius operis'.

Thus, Charles had become rid of Rudolf after all. Meanwhile, he had, shortly before then, held a fourth conference with Rorik, this time at Aachen. Rorik distrusted Charles, and had assured himself of his own personal safety by demanding hostages. There were no prospects of an improvement in the situation. In 876 the Frisians still again made themselves conspicuous by once more defeating a host of landed Norsemen, and by claiming the loot these invaders had previously amassed in other regions. It here pertained to 'Frisiones qui vocantur occidentales', perhaps inhabitants of West Friesland or Kennemerland. However, the worst calamities were still to come.

Already in the year 880, Louis III, son of Louis the German and since 879 ruler of all of Lorraine, could no longer manage to check the plunderings of Birthen near Xanten, which at that time was an important trading town on the Rhine river. He even was forced to lay siege to his own palatinate at Nijmegen, which the retreating Vikings had fitted up as their winter quarters. Louis's efforts for Nijmegen were rebound by the inaccessibility of this stronghold which the Norsemen had fortified by a rampart and several new walls. The enemy eventually pressed for and obtained permission to retreat freely, which nevertheless did not stop them from setting afire the palatinate upon their departure.

In the year 881, Godfried (who had acquired infamy already since 852) and another Dane, Siegfried – putatively a relative of Godfried's – encamped with a tremendously large army in the 'munitio, quae vocatur Ascloha', *i.e.* at Asselt on the Maas river, slightly to the north of Maastricht. From this haunt of brigands ravages were committed over a territory more extensive than had ever before been violated by Vikings and rabble joining under their colours. Towns such as Maastricht, Liege, Cologne, Aachen, Neuss, Bonn, and a series of smaller places, abbeys and monasteries did no more offer any protection to the population than did the countryside. When, to make matters worse, in February of 882 the report spread that Louis, the only Carolingian remaining who would still have been sufficiently powerful to offer some resistance, had died, an 'inestimabilis multi-

tudo peditum et equitum' left the fortress at Asselt in order to seize control of Trier. Charles III, who had been hastily sent for from Italy to fill the place of his deceased brother, Louis III, as ruler of Germany and Lorraine, placed himself in command of a sizable army for which men, horses, and equipment had been claimed from all parts of his empire. Friesland also contributed its contingent. Soon everything was ready for laying siege to Asselt, but the gross incompetence of Charles rapidly quenched the initial enthusiasm of his men, and an insurrection even broke out when the humiliating terms transpired on which Charles wished to raise the siege in the month of July. Humiliating conditions such as these only stimulated the greed for power of the Danish leaders, in particular that of the equally competent and unreliable Godfried. Godfried savoured the satisfaction of being exalted to 'consors regni' by Charles; hence the tables had been completely turned with respect to the days of Louis the Pious. In exchange for this, Godfried did no longer object to being baptized a Christian, on the condition that this also would provide him with the opportunity of seizing the 'comitatus et beneficia', 'quae Rorich Nordmannus Francorum regibus fidelis in Kinnin tenuerat'. Rorik must have died shortly before then, for we are not informed of his voluntarily ceding his feudal tenures. Dispossession of this territory would moreover have been in conflict with the information 'Francorum regibus fidelis'.

Other Danish commanders, among which in particular the names of Siegfried and Vurmo are mentioned, returned from Asselt to Danmark, their 200 ships being laden with plunder and captives and the church treasures from Metz and other towns, totally comprising 2412 pounds of gold and silver. Meanwhile, Charles was fully occupied with repressing in the insurrection among his own men, which he curbed in a cruel manner. Already in 882, Deventer was again raided by the Norsemen, perhaps by the very same brigands as those who were returning home from Asselt.

Although Rorik's death might have cleared the way for Godfried as regards taking over the command of the 'regnum Fresonum', Godfried's plans actually extended still far beyond this. Premeditatedly, Godfried had contracted a marriage with Gisela, a daughter of Lothar II who had died in 869, to whom no legitimate children were born. The second step was to establish close relations with Gisela's brother Hugo, who harboured a burning hate towards Charles III, alias Charles the Stout, and who dreamed of a restored kingdom of Lorraine. To realize these dreams, he felt that Godfried might be a useful ally, as the latter likewise thought of Hugo.

But then, Godfried's unreliability had already in the year 883 become obvious to everyone when he left a group of Danes undisturbed, which had settled in Kennemerland. Hence, these Norsemen could calmly prepare a marauding expedition up the Rhine river, whereby Duisburg was conquered and fortified to nearly impregnable winter quarters. The Saxon duke Henry nevertheless succeeded in preventing the Norsemen from leaving their quarters and levying blackmail from the surrounding country, like they had when settled at Asselt. Consequently, the aggressors were forced to sail back to Friesland, without having achieved anything, in the spring of 884, after having set fire to Duisburg.

Meanwhile, the French Kingdom certainly did not suffer any less from the Viking nuisance. In 881, Louis III had yet taken vigorous action against the invaders and achieved his famed victory over them near Saucourt, not far from Abbeville, which gave occasion for the Louis song. But in 882, his youthful son Karloman, who had succeeded him as ruler of France, proved to be no match for the throngs of Norsemen, who took fullest advantage of the numerous rivers of Northern France. Karloman did not manage to achieve more than a truce, whereby the Vikings promised to spare the country for 12 years, in exchange for 12,000 pounds of silver. Towards the end of the year 884 however, Karloman died due to a hunting mishap, which the Norsemen thought a valid excuse for being absolved from the obligation of respecting the armistice any longer. The Vikings had entrenched themselves near the Dijle river as well as at Rouen on the Seine, and filled France with so much fear that the state elders thought it advisable to disregard the lawful successor, the seven-year-old brother of Karloman, Charles the Austere, and to entrust the reins of government to Charles III, alias the Stout, in the hope that he would bring deliverance. Since the star of the latter ruler had now risen higher than ever before, Hugo no longer dared delay and urged Godfried to show his colours, at the same time promising his brother-in-law half of the kingdom of the Lorraine to be re-established. Godfried, nevertheless, gave preference to his own objectives.

Until this time, Godfried's 'regnum' did not extend beyond the borders of the 'comitatus' and 'honores', which Rorik at one time had acquired in fee, and which also included Duurstede. Hence, this means that it comprised the Friesland between the Maas and Vlie, even though it is not ruled out that Godfried had managed to also annex the Zeeland district of the Rudolf, who had been killed in 873.

How far this Frisian 'regnum' extended to the east is, however, not known in any way. In conformity with the sources that have been cited over and again already, the Ravennas Geographus – whose Cosmographia to our conviction had

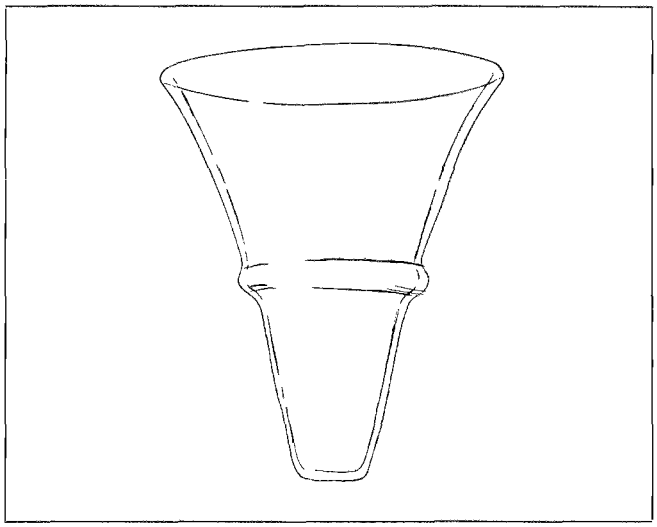


Fig. 5. Glass drinking bowl from the terp of Ferwerd (Friesland). 7th century A.D. Scale 1:2. Groninger Museum, Groningen

been completed shortly before the turn of the 8th and 9th centuries – also considers 'Dorostates' as part of the 'patria Frigonum'. In addition to that, it formed part of the canton of Nifterlake, which covered the clay regions to the west of the Crooked Rhine, and the river area of the Utrecht Vecht, including Vechten, Utrecht, and Muiden. On the east side, this canton bordered upon Flethite which comprised the river basin of the Eem and the rivulets that supplied its water, which region included Leusden, Tuil near Doorn, Rhenen, and the neighbouring hamlets of Laar, Remmerden, and Neude. In the year 855, Flethite belonged with the county of Hamaland, which strongly suggests to interpret the name of the firstmentioned canton as 'near the laak', in this case the Utrecht Vecht, with the particular meaning of 'boundary stream', which then would have formed the delimitation between the Frisian Nifterlake and its east-side neighbouring county of Hamaland. In view of the facts disclosed concerning Radbod, and the stock from which Liudger was born, the old-time Frisian character of Nifterlake can hardly be doubted indeed. Nevertheless, D.P. Blok has, on linguistic grounds, rejected the interpretation of this name and has come up with the new translation of 'dark stream'.

Resuming the thread of the story, Godfried just yet feigned a certain loyalty towards Charles the Stout by delegating two envoys instead of making for a direct break. These two envoys were named 'Gerulfus et Gardulfus, comites Fresonum', and were two Frisian counts – taken in a broad sense of the word – who were to obey the orders of Godfried, presumably their 'dux'.

The two messengers thence advised the emperor that the 'Fresia provincia', which had been apportioned to Godfried in exchange for his loyalty and his having himself baptized, no longer fitted in with his desires. Thus quotes Regino, the abbot of the monastery at Prümm, who died in 915 and who had repeatedly experienced the violence of the Norsemen personally. If Charles hence prized a continuance of the hitherto sound mutual understanding, yet above all the protection of the Frisian 'regnum' against invasions by other Norsemen, it would consequently be wise of him to expand this 'regnum' with a series of demesnes at Koblenz, Andernach, Zinzig and elsewhere along the Rhine, where the grapevines grew that just would not thrive in the land with which Godfried had thus far tried to be content with.

Charles the Stout, the 'callida machinamenta et factionem conspirationes', being very discerning, yet unable to resort to force, consulted the Saxon duke Henry, 'vir prudentissimus', in order to find a way to eliminate Godfried, 'quem in regni extremitatibus introduxerat', once and for all. A campaign did not seem recommendable, also due to the characteristics of the Frisian coastal area which did not in the least lend itself to that purpose: 'loca inassesabilia exercitui propter diversarum aquarum innumeros decursus et inpenetrabiles paludes'. Only stratagem could offer a solution.

Cautiously the preparations were then made for the 'snare' intended for liquidating the widely feared Dane. As place of meeting for holding a conference, Charles and Godfried decided on the hamlet of Spijk near Lobith, on the extreme east side of the Betuwe, 'ad locum, qui dicitur Herispich, in quo Rheni fluenta et Wal uno se alveo resolvunt et ab invicem longius recedentes Batuam provinciam suo gurgite cingunt'.

The Annales Fuldenses and Vedastini confirm Regino's accounts, and – even though the Betuwe never has formed part of Friesland, although it may have been annexed to Radbod's 'citerior Fresia' for some time – it is not inconceivable that Godfried actually did consider this territory as part of his 'regnum'. If so, the choice of the meeting place may be taken as evidence of Charles' indulgence, which Godfried interpreted as being a recognition of his initial claims and as a promise of good things to come in the near future. Charles perhaps purposely feigned weakness in order to remove any suspicion Godfried might have had.

In any case, Godfried allowed himself to become enticed to such an extent that he overlooked being as cautious as Rorik

had been in the past. The Annales Vedastini make believe that count Gerulf played an important role in the intrigue, thence making it possible for duke Henry to assassinate Godfried with his own hand: 'astu Gerulfi sui fidelis ab Heinrico duce interficitur'. Regino relates, on the contrary, that duke Henry succeeded in persuading a certain Everhard, son of the Saxon count Meginhard, to bring about a dispute with Godfried by raking up an old sore. For in the year 880, Everhard had been captured and led away during the skirmishes for the Viking-occupied Palatinate at Nijmegen, to be freed only after his mother had paid a very high ransom. It appears that Godfried had been personally involved in these occurrences and had gravely insulted Everhard. It proved not difficult for duke Henry to stir up Everhard against Godfried; at the climax of an argument the duke's son drew his sword and struck Godfried, whereupon other table companions rushed forward and killed the Norseman before he could recover himself and send for help.

The confusion thence resulting among Godfried's retinue was seized as a splendid opportunity to dispose of any Norsemen still found in the Betuwe.

As for Gisela, it appears that her role was not a passive one by any means, for which reason Charles III had already once kept her as a hostage. The conspirators, moreover, had removed her in a sly manner from Godfried's proximity shortly before the conference was to take place. Still, Gisela was spared after the assassination and was granted the dignity of abbess at Nijvel. Nevertheless, the children which she had borne Godfried, later on lived in such distressful circumstances that the archbishop of Rheims interested himself in their behalf and commended them to king Arnulf of Lorraine.

Hugo, however, was less fortunate. Unsuspectingly, he walked into the trap set for him at Gondreville by duke Henry, after which he was led before Charles III. Charged with high treason, he was blinded by the duke personally, by command of the emperor, and subsequently imprisoned at the monastery of St. Gallen, while his accomplices – being declared dishonourable – were compelled to seek refuge elsewhere. Several years thereafter, Hugo was released again, but, as a result of his being totally helpless, he entered the monastery at Prümm, where Regino shaved his crown. It was here also that the unfortunate wretch found his grave. A divergent representation of the situation is given by the Annales Fuldenses. These writings inform us that Godfried maintained an 'exercitum non medicum' as a means of enabling him to exert any necessary pressure upon Charles. True enough, 'Heimrichus et alii fideles' had succeeded in assassinating Godfried, 'cum eos convitiis variisque ludibriis exacerbaret', when the Dane hence had provoked his guests by making sneering remarks during the meal, but the 'Normanni ab eo invitati', *i.e.* other Norsemen which had been brought into the country for maleficent purposes by Godfried, in the meantime had already began plundering 'Saxonia' and could not surmise what meanwhile had befallen Godfried. These gangs of robbers still had to be settled with.

However, in the first instance, only few 'Saxones' could offer resistance to these 'Nordmanni' which were craftily 'invitati' by Godfried, so that these Norsemen were readily fooled into leaving their ships in order to pursue the Saxons. But then, the 'Frisiones, qui vocantur Destarbenzon' saw their opportunity. They made use of very small vessels – 'parvissimis, ut eis est consuetudo, naviculis' – and, by means of these, attacked the Norsemen from the rear. The 'Saxones' thereupon gathered courage again and the Vikings, being waylaid from two sides now, were defeated, 'ut pauci de tanta multitudine relinquerentur'. The 'Frisiones' subseqently seized the Viking ships and thence came upon so many treasures that all of them had at once become wealthy. The designation 'Saxones', however, is too vague as to enable a more exact localization of the scene of the battle, but the present events, at any rate, actually did take place within the river area of the Rhine and Waal rivers. In our opinion it may not have been improbable that the 'Frisiones, qui vocantur Destarbenzon' were merchants residing in Teisterbant and particularly in Tiel, the capital of this river area. The last-mentioned town, thereby, for the first time became exposed to the light of history.

Teisterbant was mentioned as a Saxon place of settlement also by J.F. Niermeyer, while Tiel is not referred to at all; but whether these 'Saxones' were English – as Niermeyer presumes – in our opinion seems quite questionable. In the first place, their number could never have been such that they succeeded in putting a fighting force into the field, sufficiently large to withstand an enormous group of Norsemen equipped with a fleet of sizable ships. Secondly, the Anglo-Saxon Chronicle does not seem informed on this matter either, and it surely would not have concealed an Anglo-Saxon act of heroism, while this source does, however, report the battle of 885. For it recalls to memory the arrival of a 'micel sciphere' in 'Ald Seaxum': 'and tha Seaxan heafdun sige. And thaer waeron Frisan mid'. We would incidentally observe that in this case, again, the Annales Fuldenses emphasize – more than all other sources – the share the Frisians had in the resistance to the Norsemen.

III

The Danish, Frisian, and Saxon leaders of these days were certainly well matched, the remarkableness of a man as Gerulf being indicated by the fact that he not only managed to keep away the Danish candidates for the office vacated in 885, but also had personally claimed the unoccupied throne of Godfried. The circumstances had been exceptionally favourable to Gerulf. After the assassination of Godfried and the elimination of the Lotharingian insurgents, Charles III had made his way to Louvain in order to drive out the Norsemen, that had settled there, from their stronghold erected on the Dijle, which campaign turned out a great failure. In July of 886, the Norsemen, moreover, massed a large army at Rouen, which subsequently sailed up the Seine in order to lay siege on all sides of the isle of Paris. The Parisians, however, offered a stubborn resistance. Charles then could no longer look on passively and made preparations for the relief. However, a stroke of ill fortune was before him. Duke Henry, who is quoted on this occasion by the Annales Fuldenses as 'marchensis Francorum, qui in id tempus Niustriam tenuit', was killed reconnoitring the army camp of the besiegers, as a consequence of whose death the emperor lost his most competent commander. In November of 886 the Norsemen raised the siege, after they had been paid a tribute. Since Charles now had failed at Paris just as he had at Asselt, and a more able leader was looked out for, the choice fell on Arnulf, the bastard son of Karloman the German, brother of Charles the Stout, who did not hesitate in the last to brush aside the lawful monarch. As a matter of fact, Charles died shortly thereafter, putatively as a result of poisoning. The state elders, meanwhile, did not neglect to profit themselves from the change of rulers, and for that purpose presented Arnulf with some accounts. In 889, Gerulf, too, wished to be rewarded for his obliging standoffishness. He thence received a charter confirming the cession of a series of demesnes 'inter Renum et Switherdeshaga in comitatu ipsius', which putatively covered the stretch of sandy soil along the foot of the dunes, to the north of the Old Rhine down to Alkmaar. Moreover, it may be taken as a certainty that Gerulf was in no hurry to assist the bishop of Utrecht in recovering his rightful secular claims and sources of revenue, spread over the coastal region on both sides of the Old Rhine, the enjoyment of which had become quite repressed during the reigns of Rorik and Godfried. 'Piscatio, quem Gerulfus habet in extrema parte Reni fluminis' is, at least, what it is referred to in the oldest index of goods by St. Martin of Utrecht. Bishop Balderik (918–975), between the years 918 and 948 made an effort to settle these affairs, relying upon a number of carefully saved title-deeds. It was also he who first managed to return to Utrecht from Deventer, supported by the force of arms.

A claim which has not been proven – yet which does not seem improbable – is that of H. Jaekel, wherein he takes Gerulf for a relative of the namesake to whom Louis the Pious in the year 839 made restitution of certain titles and fiefs, which this count before had lost in various disturbances, and which were located at Westergo, on the other side of the Vlie. Jaekel, however, even went as fas as to assume that count Gardulf, who had accompanied Gerulf on his mission to emperor Charles in 885, was also the same Gardolf whose territory, extending over the Nagele (a branch of the IJssel that had become part of the Zuiderzee, which formed the combined lower reaches of the Linde and Tjonger, and which debouched into the Vlie near Staveren), apparently belonged to count Egbert in the year 966. Gardulf, in turn, is believed to have been the successor of count Albdag, whom in the year 873 was referred to as being the royal authoritarian on the occasion of the invasion by the Dane Rudolf at Ostergo. All these claims are not ruled out entirely, yet Jaekel did go slightly too far when, on the basis of all these presumptions, he deduced that also the Friesland between Vlie and Lauwers had formed part of the 'regnum' of Godfried who was assassinated in 885. In any case, there is no indication whatever as to the actuality of the aforementioned far-reaching claims and interests when the Gerulf of 885 – Gardulf drops out of the picture again – acts as the patriarch of two dynasties of counts.

Although count Dirk I (whose descendants as a matter of fact – in the course of the 12th century – no longer name themselves after Friesland, but Holland) was the son of count Gerulf (I.H. Gosses has been able to prove this fact thoroughly again), the issue of the county of Holland was, nevertheless, not considered the main issue of Gerulf's estate. For it was an elder brother of Dirk I, Waldger, who already shortly after the year 885 came into prominence. Waldger, however, did not operate in the coastal regions on both sides of the mouth of the Rhine near Katwijk, but at Utrecht and Tiel. Following in the footsteps of elder historiographers, albeit in contradiction with Gosses, H. Müter has unfolded his grounds, on the basis of which he detected in the before-mentioned royal charter of 889 the first indications of Gerulf's pushing forward at Teisterbant, whereby Gerulf was granted, among other things, the ownership of a homestad, 'in loco Theole', by which only Tiel could have been meant. Very probably, it was here that Waldger in 892 founded a monastery dedicated to St. Walburg, where in the years to follow he erected a 'nova et lapidea civitas', a walled- in settlement of a town-like character.

This example was to be followed in the year 922 by Waldger's brother Dirk I, by the foundation of the St. Adalbert monastery at Egmond. Waldger succeeded in maintaining his position among the great of his time.

After king Arnulf (who was crowned an emperor in 896 at Rome) had somewhat relieved the empire by his victory over the Norsemen at Louvain in 891, the great of Lorraine (led by Reinier, nicknamed 'Longneck') reared their heads again. Reinier was a son of count Giselbrecht's, the forefather of the count of Henegouwen and Louvain, and a daughter of emperor Lothar's. Even though king Arnulf made an effort to meet the tendencies of the Lotharingian great by founding a separate kingdom of Lorraine that was reigned over by his elder bastard son Zwentibold, it was Reinier who, nevertheless, actually ruled the roast, whereby the latter played off Charles the Austere against Arnulf. In 896, Waldger was found in Arnulf's proximity, accompanied by bishop Adalbold I of Utrecht (866–899) – who had his see at Deventer –, in order to ensure himself of fiscal advantages at Deventer and Tiel: *i.e.* remission of 'giscot', 'in Davantre scilicet et Tiale', such as the predecessors of the king had, at the time, granted St. Martin at Utrecht in respect of Duurstede; 'ut ipsam legem quam in Dorestadio antecessores nostri reges... ad iam nominatam sanctam Traiectensem ecclesiam concesserunt.'

Waldger again bears evidence of his influence when in 914 he assists bishop Radbod in obtaining the royal confirmation of the Utrecht rights of immunity. This, however, had become a thorny affair ever since the confusion that had sprung up after the death of Arnulf in the year 899. It is true that Zwentibold in the year 900 had lost his life in the battle against Charles the Austere, who had been brought in by count Reinier of Lorraine, but Arnulf also had left a legitimate son, Louis the Child, then at the age of seven, whom the archbishop of Mainz had crowned still in the same year 900. In fact, however, count Reinier ruled Lorraine, and it was he, too, who decided – after Louis's death in 911 – that Charles the Austere (absolute monarch of France since 898) was to be king of Lorraine also, and that Charles no longer was to rule Germany. Even though Waldger in 914 had, nevertheless, called on king Conrad of Germany, in 915 it appears that he has found motives for following Reinier's course, for in 916 – and again in 921 – we are informed of his appearance at the court of Charles instead of at the court of the German emperor Conrad I (911–918) or his successor Henry I (918–935). Already in 915, Reinier had died and was succeeded by his son Giselbrecht II, who rather frequently changed sides but ultimately still gave preference to Henry the Fowler, which sovereign conferred to him the title of duke of Lorraine and gave him his daughter in marriage. Small wonder then that Waldger in 928 appears to also follow in harness with emperor Henry. Charles the Austere, as a matter of fact, had already in 923 been imprisoned by the powers of France, Burgundy and Lorraine, in which state of confinement he died in 929. Giselbrecht did not fare much better either; having risen against Henry's successor, Otto I, he and his Lotharingian partisans were defeated in 939 in the battle at Andernach, after which Giselbrecht drowned in the Rhine. The dream of an independent Lorraine had once and for all volatilized, even though Giselbrecht's family retained its influential position.

Bishop Radbod (900–917) is believed to have been a relative of count Waldger's, while the latter, in turn, could boast an equally close relationship with Radbod's successor, Balderik (918–976). And it was with Balderik also that the count in the year 921, siding with Charles the Austere, had ratified an allegiance with king Henry, on or near the Rhine at Bonn. From other records it can be deduced that Waldger had at his disposal numerous allodia, extending over the cantons of Nifterlake, Lake et Isla and Teisterbant, where he, moreover, exercised the rights of a count. Together with his wife Alberada and his son Radbod, in the year 950 Waldger was referred to as the great benefactor of the St. Walburg monastery at Tiel. Apparently, the assassination of duke Everhard, son of Meginhard (the same Everhard who in 885 had played such an important part in the attempt on Godfried's life) had suited him quite well, and he, in any case, could have taken the liberty to such a wrathful deed. This murder had taken place in the year 898 during a hunt, and does not give us a high opinion of the mentality of the persons involved. The hate displayed here, very likely was based upon a conflict of interests. For Everhard was count of Hamaland, which included Deventer (this town being the episcopal residency until Balderik's accession to office), and he might have entertained the thought of annexing the Sticht or have opposed the plans to re-establish Utrecht as the seat of he diocese, hereby having found Waldger in his path.

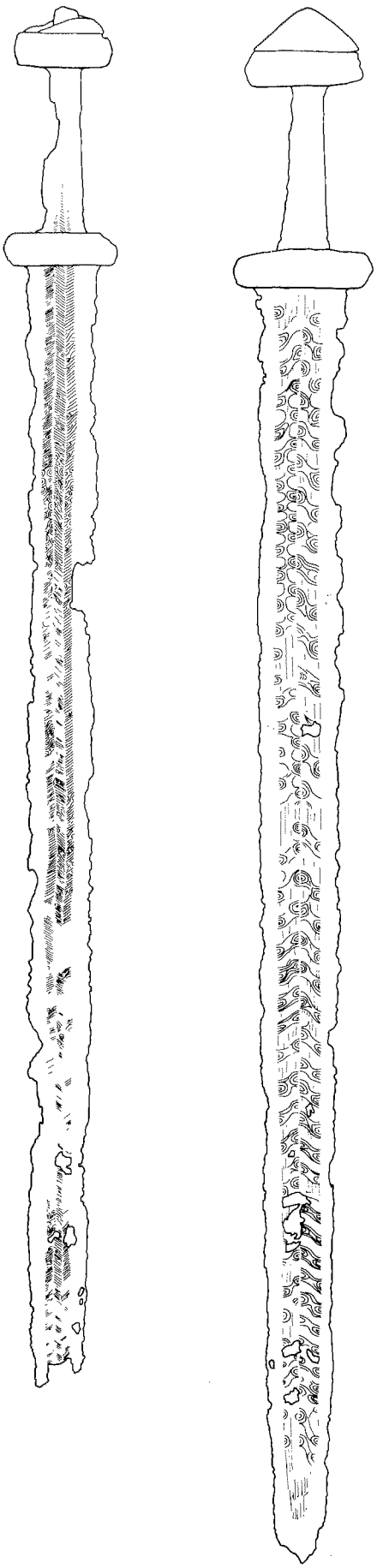
Waldger's son and successor, Radbod, who has been mentioned hereinbefore, and to whom the records alternately refer as 'Ratbotus', 'Ruotboto', and 'Radbodo', initially maintained the respect his father had acquired. On the basis of the name 'Radbod', which was also the name of the bishop of Utrecht – who is believed to have been the godfather of the count –, the Gerulfingians have been thought of as descendants – or at least relatives – of king Radbod's. After the death of this king in the year 719, when so many changes took place, these relatives had either obtained or maintained

high positions, while allegedly there even was a family relationship between the Carolingians and Radbodians, as a result of the marriage between Grimoald and Theudesinde. A consanguinity between king Radbod and bishop Radbod was – as a matter of fact – presumed already at the beginning of the 10th century, as can be read from one of the two oldest texts exposing the Vita of this prelate: 'Dux quoque Fresonum Radbodo suae matris attavus extitit'. The other text merely advises that he descended from the Lommegouw, along the Upper-Meuse.

The Teisterbant branch of the Gerulfingian generation of counts meanwhile did not become quite as prominent as did the counts of Holland, but then we would go beyond our scope if we followed the developments concerning this matter any further. We would only observe that the bishops of Utrecht as secular lords fared quite well by the elimination of Waldger's rightful successors.

It is not very probable that the change of rulers in 885 resulted directly in fewer attacks from overseas. Still in January of 885, bishop Rimbert of Bremen had led a host of East-Frisians to battle against an army of Norsemen, as a result of which the Frisians managed to retain the upper hand: 'Nordmanni cum Frisionibus, qui vocantur Norditi, dimicantes, superantur et plurimi ex eis occiduntur'. It are the Annales Fuldenses again that have a share in this information. Perhaps these were the same Norsemen which Godfried in the same year had brought in, and which had been defeated by the Teisterbant Frisians. However, our source makes believe that the invaders were handled quite severely, which does not, of course, rule out the possibility that they had sufficiently recovered to try again somewhere else. This passage might give the general impression that the conflict took place near Norden, but that is quite questionable. Presumably, the battle field was located more eastward, on the mouth of the Weser river. Adam of Bremen, who wrote on this subject almost two centuries later (but who could rely on information recorded in a manuscript that was lost afterwards which had been composed by abbot Bovo of Corvey (879–890) and which dealt with certain marvels of that particular time) discloses still more about it and relates of a 'barbarorum irruptio ad quendam Frisiae pagum', 'qui in remotis ac maris magno vicinis locis situs Nordwidi appellatur'. From a hill or terp in the immediate proximity of the battle scene, the bishop had watched the struggle, and the Frisians ascribed their victory to his ardent prayers.

In the autumn of 887, Siegfried, whom we remember from the siege at Asselt and who was returning from raids on Paris and the basin of the Seine, set foot on Frisian soil. The



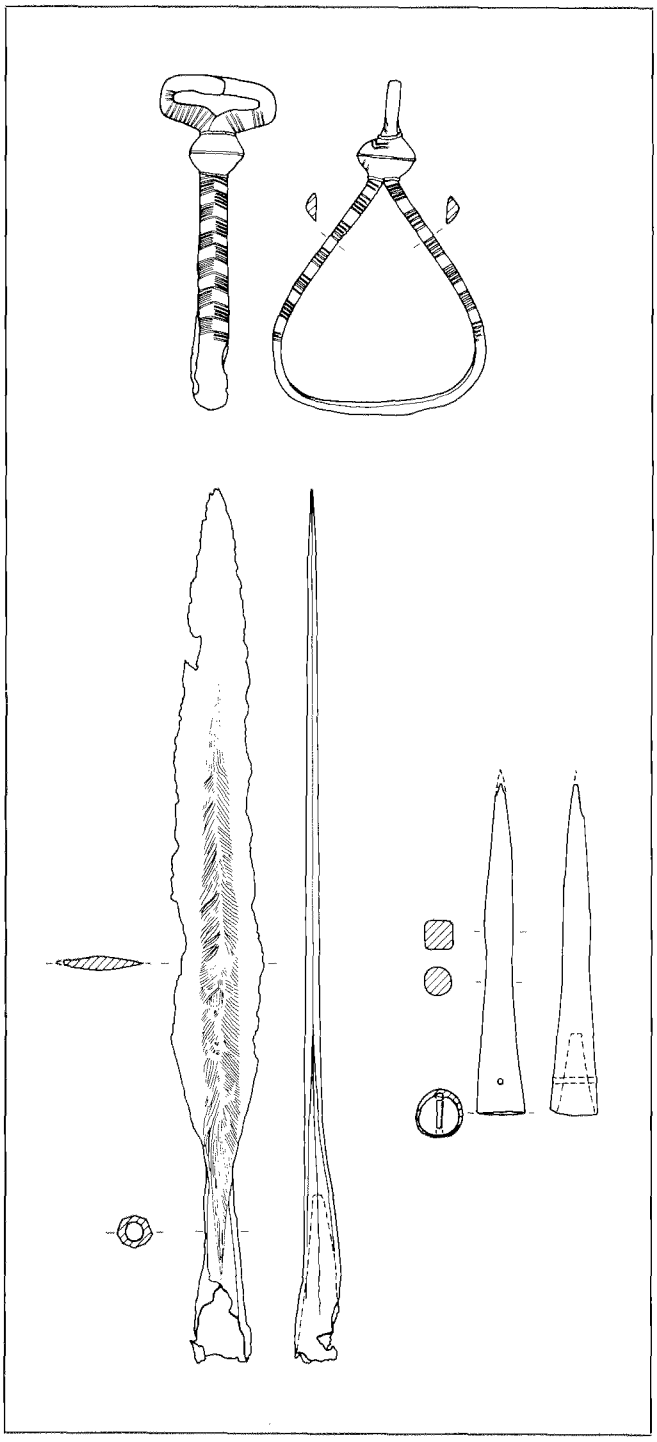


Fig. 6. Swords, lance, spear and stirrup from a grave, found in the terp of Antum (Groningen). About 800 A.D. Scale 1:4. Groninger Museum, Groningen

Annales Vedastini inform us that he there met with the same fate that had befallen Rudolf: 'Sigefridus vero cum suis verno finiente in Sequanam rediit agens solita et circa autumni tempora Frexiam petiit, ibique interfectus est'. As the Frisian coastal regions continued to be quite unsafe, it is very understandable that bishop Radbod, too, in no way whatever prepared to leave Deventer and resume his seat at Utrecht. It is true that the Norsemen had also penetrated as far as Deventer once, yet this one occasion had remained an exception.

Besides, Deventer, unlike Utrecht, was situated outside the 'regnum' of Rorik and Godfried, which circumstance perhaps saved a bishop residing in Deventer the necessary complications. Even though this objection might have been eliminated after 885, also Radbod's predecessor, Adalbold (866–899), did not want to leave Deventer. He had succeeded, however, in maintaining the relations with a vulnerable island such as Texel, where a priest, Sybrand by name, saw to it that St. Martin, also during his exile at Deventer, regularly received the revenue due to the bishop for all the churches in Texel, the third part of the king's land situated in Texel, as well as for the lands given by pious inhabitants of this island to Utrecht.

Besides, Utrecht still presented a dreary sight and it would seem as if it was kept occupied by the Vikings mainly because it occupied an important key position on Rhine and Vecht. In bishop Radbod's biography mention is even made of a 'Danorum incursus', which Radbod had sized fearlessly to preach Christianity to these heathens, be it in vain. We further read that Radbod wanted nothing better than return to Utrecht, that he has actually been there, but gave up courage: 'Episcopali vero sede Danorum persecutione Traiecto desolata, Daventrie sedem ipsius elegit, Traiectensis non immemor sedis, quem iugiter inhabitavit'. One might infer from these words that the bishop's see was transferred from Utrecht to Deventer only when Radbod was in office, even though bishop Hunger had to leave Utrecht for good already in the year 857 and take refuge in St. Odiliënberg. Had Hunger, or his successor Adalbold, made plans after all to return to Utrecht? Anyhow, we meet the latter in the year 895 at a synod at Tribur, where he is called 'Voldevaldus Taventrensis aecclesiae episcopus'.

We are poorly informed about the extent to which the exiles living at Deventer could visit the population of the diocese of Utrecht living on yonder side of the IJssel, although the report about Texel from Adalbold's time gives the impression that the two-way traffic was certainly not interrupted and that time to time even considerable sums of money were despatched. Furthermore we learn how bishop Radbod on a

journey through Drente – infra pagum Trente nuncupatum' – was seized by fever and expressed the wish to be taken to Ootmarsum – 'Othermarshen' – where he would gladly retire into a 'parvum oratorium'. Here he also died, after which the body was taken to Deventer to find a last resting place beside the bones of Liafwin.

Naturally, there was no reason for a journey from Drente to Deventer to cause difficulties, but the Frisians were not left to their fate by Radbod either. He even took special care that they did not relapse into their old idolatries – 'pergit in partes, quo antiqui erroris radices, sicubi emergerent, spirituali vomere diruerent' – and it was exactly during a journey through Friesland that he was surprised by a Viking raid. We are not told, however, in what part of Friesland this raid took place. Radbod's efforts to make converts meanwhile worked the wrong way, so that the Vikings threatened to kill him. Now the bishop resorted to a ban, as a consequence of which the rogues suddenly died from the plague. And when the Vikings also made trouble for the bishop in Utrecht, the same fate befell them.

It was Radbod's young successor Balderik (918–976) who restored Utrecht to its old glory, but to achieve this his father Ricfried – later sources call him count of Kleve – had been obliged to pave the way by force. Ricfried's epitaph, once to be found in St. Salvator's at Utrecht – 'fuit ille patronus' – and inscribed about the middle of the 10th century, at least makes mention of 'pagani', driven away by the count, so that he could lay claim to the title of 'loci istius defensor amandus', as the bishop here is called 'Ricfridi comitis filius'.

We know the story from the Anglo-Saxon chronicle, where we are told that king Alfred (871–901) had ships built twice as long as usual, while having higher bulwarks and showing a more elongated sheer. The construction of these vessels differed from the Danish as well as from the Frisian ones; it had been designed with the special object of successfully waging battle at sea against the 'aescas', as this 11th century source characterizes the ash-wood Viking ships. The boats could be propelled by 60 or more oars, which guaranteed a great speed while maintaining good manoeuvrability.

The crew consisted of Englishmen and Frisians. When Alfred's fleet in the year 897 risked a battle with a Viking fleet – the outcome is not described – 120 Danes were killed against 62 Englishmen and Frisians: 'And ealra monna Fresiscra and Engliscra 62 and thare Deniscena 120'.

Among those slain were the king's commander-in-chief and three Frisian captains: 'Thaer weard ofslagen Lucumon cynges gerefa and Wulfheard Friesa and Aeble Friesa and Aedelhere Friesa and Aedelferd cynges Geneat'.

Recently H. Kuhn contested the current opinion and argued that the apposition 'Friesa' indicated the class to which those slain belonged, but he has not convinced us, the less so because there were certainly numerous Frisians among the crews.

Another question is how the English king could recruit Frisian seamen, in which connection one might think of the Frisian settlers in English marshy areas like the Wash.

Since the seventies of the 9th century the centre of gravity of the Viking raids gradually shifted to the basin of the Seine and its tributaries, which enabled the pirates to sail deeper inland and to open up an area richer and more extensive than ever before. The stricken community, however, tried to adapt itself to this annually recurring scourge by surrounding towns and monasteries by strongholds, while in the country also earthworks were raised, frequently after the example of the Vikings themselves laid out as circular defences within which the fugitive populaition might hope to escape captivity and to retain their money, valuables, movable goods and livestock. Thus also acted the abbot of St. Vaast at Atrecht on the Scarpe, a tributary of the Scheldt, and the abbot of St. Bertin, the present-day St. Omaars on the Aa, which was also accessible to Viking ships along the river IJzer. Abbot Folco of St. Bertin (878–883), for example, had in his first year of office a circular wall built round his abbey, but the work had hardly been completed when the Vikings destroyed the abbey. And this was already the second time! But the abbot did not lose courage and had the abbey fortified once more. Particulars about the procedure are found in the book of miracles of St. Bertin, which describes the third raid of the Vikings – in 891. However, this was repulsed.

The assailants came from Noyon on the Oise, which town they had tried in vain to take and it is on this occasion that we learn how the Vikings had been annoyed about the fact that particularly in the coastal regions of the empire which had formerly belonged to king Lothair – that is on the other side of the Scheldt, in Zealand therefore – 'recens' strongholds had been built, 'castella facta', whose aim was to protect the population against the Vikings.

On different grounds J. Huizinga at the time already held the view that the remarkable circular shape of medieval Domburg, Middelburg and Souburg in Walcheren should be related to the 'people's or refuge burgs', within which the population of the surrounding lands could find a temporary refuge. Huizinga rightly held these burgs to be a defence system against the Vikings. Hence, there is nothing to refrain us from identifying these very Walcheren burgs with the 'castella', 'in regno quondam Lotharii', mentioned in

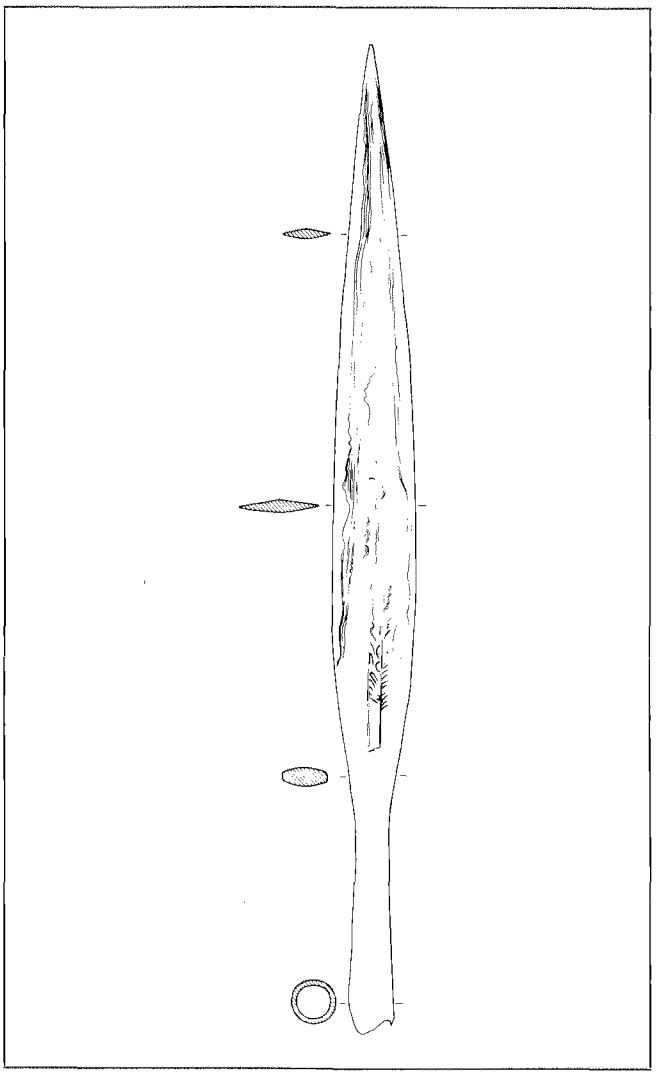


Fig. 7. Iron lance point, found in the Reitdiep near Groningen. 9th century A.D. Scale 1:4. Groninger Museum, Groningen

graves were held in pious memory, which spread beyond the boundaries of the Munster diocese of Friesland over the entire coastal region between Vlie and Weser. The Hunsego Charters, recorded in the year 1252 – together with the Bedumerwold enclosed by the Wolddike, Bedum formed part of Hunsego but bordered on Fivelgo – even mention a St. Walfried truce, which lasted full 24 hours from sunrise on the day on which the judges of Hunsego had agreed upon their meeting, to protect those went to the 'yard' during the out-journey, the stay and the return. This truce is also contained in the Charters of Hunsego and Fivelgo, which date a century later, and which more in general define a term of four days during which visitors to the market – by which will be meant the fair which was traditionally held at Bedum in connection with the pilgrimages – were protected against molestation. And not only on St. Walfried's day itself, but also four days before and four days after. The unknown author of the Vita does not mention Walfried's home and only gives the vague indication 'In Frisiae partibus'. From the context, however, we can derive that is must have been Bedum. The surroundings of this place in Walfried's days are portrayed to us as a bog infested by wild animals: 'Habitabat ille famulus Dei in locis palustribus insuperque bestiarum feritate inaccessibilibus'. Walfried, however, succeeded in converting these wilds into pastures, which suggests drainage and reclamation work.

Within the same framework fits the assurance that neither in Walfried's town, nor in the immediate vicinity was a church or chapel to be found, so that to fulfil their religious duties people had to go to Groningen via a scarcely beaten footpath. Walfried did not shrink at all from such a walk, even in winter time, and went even barefooted. He was annoyed, however, at having to follow the many bends of the Hunse river, which separated him from Groningen, until the ford was reached where this water was usually crossed. A ferry-man is not mentioned in the story. To overcome this inconvenience he had at his own cost built a bridge across the river, which is still called the Walfried bridge and had to be kept in excellent repair by Walfried's successors.

The sad day came when a 'classis Northmannorum maximo terrore' cast its shadow on 'omnes fines inter duo flumina, Emesam videlicet et Lavicam'. The fighting men gathered and at first succeeded in compelling the 'hostile agmen' to retreat. However, under superior forces the defence collapsed and the Vikings could freely spread over the countryside. Then mention is made of the 'munitiones patriae illius', all of which, with unheard-of cruelties, were overrun. Evidently, at that time there were therefore defences which the Vikings found on their way after they had broken resistance offered elsewhere. Unless the author by these 'munitiones' means only the villages, which would seem less probable. Country houses or burgs are of course out of the question in these times.

At last it was Groningen's turn itself, the 'villa opulenta, quae Groninghe vocatur, hominibus et divitiis excellens'. The Passio therefore does not call Groningen 'civitas' or 'oppidum', a town it was regarded to be in any case the 12th century, but a 'villa', as Groningen is indeed called also in some 11th century documents. Still, the nucleus of the 'villa'

of Groningen seems to have been brought in a state of defence, for the Vikings did not overrun the place immediately, but surrounded it in a special fashion, after the inhabitants, who had hastily armed themselves, had succeeded in repulsing a first attack. While women and children now sought refuge 'extra munitionem', the fighting men retreated within it, awaiting the enemy. By this 'munitio' the Passio certainly has a stronghold in mind, however poor it might have been: 'parvo satis labore prae ignorantia munita'.

The encircled occupation had to pay by a complete defect for its inexperience with arms and its martial inability. Raising a wild war-cry – 'horribili undique exorto clamore' – the Vikings penetrated the 'munitio' from all sides and set fire to the 'villa'. Also the 'basilica sancti Martini, ibidem constructa' was reduced to ashes. Within the walls of this building many, among them Walfried, had taken refuge, but in vain. The Vikings dragged him out to within the camp near their ships, and ultimately killed him. They even made capital of the body, for they stipulated a high ransom for it when Walfried's 'parentes' came to ask for it to be decently buried. So the body was returned to his parents only against payment – 'collata pecunia' – after which they buried their son on the yard of the parental home, indeed even 'infra domum', within the walls of the 'cella', which Walfried, 'oratione causa' had had erected.

Kempius, who gives the impression of having had a text deviating on some important points from the one followed by us so far, can tell us more about the sad sequel and mentions a deputation composed of relatives and neighbours. It proceeded to the Viking camp and received Walfried's body against payment of hard cash. With loud lamentations the procession returned to Bedum, after which Walfried, in accordance with his own will, was buried in a wooden coffin under his bed. According to others, Kempius writes, Walfried was not murdered in Groningen, but in his own house. The body was then hastily hidden under the bed to prevent the Vikings from taking it with them, thus rendering it impossible to bury it in consecrated earth.

While the Vikings played havoc in Groningen and the survivors in the surroundings ventured out of their hiding places, Walfried's wife missed her son Radfried. A servant sent out to seek him, after many efforts at last found him not far from the parental home, but dead, 'a Northmannis peremptum'. However, the body could not be lifted from the ground, so that for lack of an alternative, it was buried in the spot where he had died. Perhaps this was God's will. Kempius adds to this report that Radfried had been hit by javelins in the back and had fallen into a slough teeming with frogs, to which he may have fled, hoping to be able to hide there. In conclusion, we learn a few things about the miraculous cures which took place at Walfried's intercession on his grave. However, the crowds soon became so large, 'non solum in Frisiae partibus sed etiam de diversis regionibus', that Walfried's parents had a wooden church erected over the grave, a 'basilica lignea', which afterwards, owing to the gifts donated by pilgrims, could be replaced by a 'lapideum templum' dedicated by the bishop of Munster to Mary, Paul and Walfried. Neither on the year of Walfried's death nor on the moment of the two consecrations do the available sources put us any wiser. The date of the canonization, however, is mentioned: June 22nd. In agreement with this statement the 'commemorati' of Walfried and Radfried are registered in the 15th century missal of St. Martin's at Bolsward, now kept at the townhall of this place, on June 22nd. For both, the day of their death is taken to be December 3rd. Still, one often finds the year 810 mentioned, obviously derived from the first great Viking invasion, ordered by king Godfrey. Besides, also sometimes the year 919, without any further mention of sources. The spellings 'Rathfridus', 'Northmanni' and 'Mimigardenfordensis episcopus' – for Munster – in some of the texts handed down to us suggest that the original manuscript of the Passio dates from before the 13th century. Also for architectural and church-historical reasons – an important part of the 'lapideum templum' at Bedum is still intact – we are convinced that the Passio was recorded in the 12th century. The Viking invasion itself possibly took place in the year 991, for in this year Staveren was plundered, as will be described below, together with other parts of Friesland. The year 919 might then ultimately be founded on a metathesis of 991 and thus be explained.

In passing, the author of the Passio mentions that also over Radfried's grave a chapel had been built. He makes this statement in connection with a miraculous cure of a woman, who had proceeded 'ad basilicum sancti Radfridi'. Kempius also states that heavenly lights were seen at night over Radfried's grave, some years after his father Walfried's grave har gradually come to be in an odour of sanctity.

Since 1934 we have, owing to an excavation by Van Giffen, been informed about the place as well as the nature of Radfried's memorial church – the title 'basilica' would seem too big a name. It was situated about 350 feet west of Walfried's memorial church; hence, here we would also have to seek the frog pool – described by Kempius – in which the body of the boy was found. However, the investigation could not be completed at the time and it still awaits further rounding-off, so that there is no certainty about the place and nature of Walfried's home in relation to the two churches, nor about

the situation of old Bedum, which, unlike nearly all the villages in the clay regions within the oldest dikes, had not been built on a terp.

It is certain, though, that the story about the two Bedum martyrs was unconditionally believed in the 13th century.

The Anonymus, who in such a lively manner informs us about what in his days disturbed the northern part of the diocese of Utrecht since bishop Hardbert's (1139–1150) till bishop Wilbrand's term of office (1227–1233), bears witness thereof. For we learn that the citizens of Groningen had in the year 1143 entrenched themselves in St. Walburg's against the servants of bishop Hardbert and his prefect, the Groningen viscount. When in the year 1196 the citizens of Groningen once more prepared to occupy St. Walburg's, they contested the bishop's claim to this very solid, polygonal structure – made from tuff and rising up like a castle – and contended that the bishop could not lay claim to it, because it was a parish church, and hence no palace chapel in the bishop's court. Besides, the citizens argued, it had been built to defend the town against the Vikings, at the time of the blessed Walfried. Gosses has meanwhile demonstrated that the bishop's claims to St. Walburg's were indisputable, even though circumstances ever and ever again made this building a centre of argument as soon as slumbering contrasts came to an outburst.

We are indebted to Van Giffen for an accurate knowledge of Groningen's St. Walburg's. This most remarkable building, which was partly pulled down in 1611 and completely in 1627, had a 20-cornered ground plan and formed part of a group of polygonal chapels erected after the example of the famous emperor's chapel at Aix-la-Chapelle in the French as well as in the German part of the kingdom of the Franks. The one at Groningen rose at a short distance northeast of the parish church dedicated to St. Martin and was not smaller than the one at Aix-la-Chapelle. Van Giffen was of opinion that this chapel had been built in the 10th century as part of the 'predium, quale nos visi fuimus tenere in villa, Gruoninga nuncupata', given bij king Henry III to St. Martin's at Utrecht in the year 1040. Afterwards Van Giffen once more reverted to the date of building and suggested that Walfried was accustomed to worship at St. Walburg's. In the Passio, however, it is stated that it was St. Martin's.

Whereas Vermeulen as far back as 1928 had, on the basis of pictures, dated Groningen's St. Walburg's in the 10th century, Labouchère in 1955 took this building to be a mortuary chapel for Charles, a son of Charlemagne, who died in 811, and which was assumed by him to have been finished already before the year 834. A fantastic hypothesis, which moreover suggests a change of patronage after construction. Although St. Walburg died already in 799, she was not canonized until the end of the 9th century. As observed in passing, for the time being we are inclined to assume that the plunder of Groningen and Walfried's death took place in the year 991. For, according to the Annales Hildesheimenses, 'pirate' in that year plundered 'Staverun aliaque in litore loca' – a well-documented event therefore, within which framework the raid on the coastal regions between Lauwers and Ems with the 'villa' of Groningen, considering the circumstances which have meanwhile come to our knowledge, fits best. For the rest, the raids in 991 were not the only ones, but were repeated in 994 and 995, be it not only in the Frisian coastal regions, but more in general along the borders of the river Weser to far into 'Saxonia'.

Excavations performed during the restoration by the State Archaeological Service in 1961–1962, and once more in 1964–1965 under our direction in the choir, as well as the celebration of St. Martin's at Groningen, supplied evidence that this building can boast of a history which goes back into history at least as far as that of the neighbouring St. Walburg's chapel. It is therefore not permissible to assume that St. Walburg's, unlike St. Martin's, existed already when the Vikings reduced Groningen to ashes and killed Walfried – it being left undecided whether anything like it actually happened in the year 991.

Apart from the above, we established before that Willehad in the 'villa' laid the foundations of a wooden church dedicated to St. Martin. Besides, is it imaginable that in a place like Groningen, so far removed from the regions which since the Carolingian era had possessed stone churches and monasteries, surrounded for miles around as it was by land where well into the 12th century churches, if occurring at all, were mainly made of wood, the means and possibilities should have been available in the 10th, let alone the 9th century, to erect, in addition to an existing church, a palace chapel similar to St. Walburg's as regards dimensions and architecture? In 1962 we rejected this possibility and much more thought of the bishop in whose term of office the predium at Groningen had been achieved: bishop Bernold (1027–1054).

Independent from us Verbeek in 1964 came to the same conclusion on art-historical grounds.

Meanwhile, we must not ignore the fact that Bernold's predecessor, Adalbold (1010–1026), during whose office St. Martin's had received at Utrecht from the hands of the emperor Henry II in the year 1024 the 'comitatus de Trente' – to which Groningen belonged as the main nucleus –, put St. Walburg monastery at Tiel under an obligation. For in

1006 the former bad times seemed to return when a great Viking fleet came sailing up the Merwede and Waal to plunder Tiel, at that time the main commercial town in the Rhine delta and the link between the Rhineland and England. The population panicked, the merchants sought safety with their ready money in flight and nobody in any way restrained the 'pyrate', as the contemporary Alpertus of Metz calls the rovers in his well-known description of the event. The 'portus', as well as St. Walburg's monastery, situated within the walled part of the town – the 'lapidea civitas' – were looted, the harbour district being set fire to during the retreat. The fact that the monastery was saved was of course attributed to St. Walburg herself, which, particularly after the repair and re-consecration of the monastic church in the year 1022, effected a great revival of the veneration of St. Walburg, which made its effect felt far into the Rhineland. But Zutphen as well seems to owe its St. Walburg's to it. From Tiel also Groningen must have acquired its St. Walburg relics, which in its turn may have led to the erection of St. Walburg's at Emden. Other possibilities are also at hand, however. Anyhow, in the 11th century there was probably a certains' emotional value with respect to St. Walburg and the Viking menace, in that corresponding experience had been gained by Groningen in 991, and by Tiel in 1006, the recurrence of which one hoped to prevent by ensuring the intercession of the patroness who had prevented the Vikings from destroying a monastery dedicted to her. Incidentally we point out that also Tiel, in addition to the monastic church dedicated to St. Walburg, had a St. Martin's which served as parish church.

Excavations carried out under our supervision in 1958 within the compass of the repair work also here demonstrated that the parish church existed as far back as the 8th century. Tiel's St. Martin's, however, was not erected beside St. Walburg's, but at a rather large distance south-east of it, outside the 'civitas'. In other respects the lay-out of old Tiel, which had its origin on the point where the Linge left the Waal, was in perfect agreement with that of Dorestad, at the divide of Rhine and Lek.

In 1007, however, the Vikings returned once more to the Rhine delta, this time with as many as 70 'longi naves'. Their target was now Utrecht and they reached this town along Lek and Kromme Rijn. The 'oppidani Trajectenses', however, took a bolder stand than the inhabitants of Tiel; they set fire to the 'portus' – the later district of 'Stathe' round about the Buur church – and entrenched themselves in the 'castellum', around St. Martin's and St. Salvator's monastery. To everybody's surprise the Vikings did not besiege or storm the town, but left the country.

1009 seems to have been the year of the invasion mentioned by the Icelandic skald Sigvatr in an epic belonging to the Heimskringla, devoted to the raids of the later king Olaf and dating from the first half of the 11th century. Olaf's long-boats had to weather a heavy gale off the 'hoge Kennemer strand', 'thelu hlyr fyr hári hrith Kinnlimasidu', and had thereby been forced to put their boats on the coast. However, the landed ship's companies had to face a fight with a partly mounted army, rallied in haste. Olaf, however, succeeded in holding his own, repairing the damage sustained and to put out to sea in order to continue his voyage to England.

Reports about Viking raids of an even later date – with the exception of the Nordic invasion in the mouth of the Weser in 1039–1040 – are lacking. Nevertheless, the impression made by the Viking raids on the population of the coastal regions between Scheldt and Weser, influenced legislation down into the 13th century.

V

According to a story recorded in the early part of the 13th century by Saxo Grammaticus the first Norseman who subjected Friesland with a fleet – 'Gotricus', by which name Godfrey is meant, who in the year 810 had extorted from the Frisians a tribute of 100 pounds of silver and whose memory had been kept alive by Einhard's Vita Karoli Magni – had had a treasure house built. This was no less than 240 feet long and numbered 12 sections or compartments, each of 20 feet. At one end a round shield had been placed, at the other end the king's treasurer sat down. Whenever a tributary Frisian entered the building to pay his tax, he was to throw his coins one by one into this shield. The treasurer, however, only counted those coins which he had heard fall, whereas the coins whose sound he pretended not to have heard, were forfeited. This is the record of this Danish historian who, in accordance with truth, writes that assassination delivered king Charles from this dangerous opponent. However, also the Frisians seem to have been acquainted with this story. Saxo had possibly heard it from the North-Frisians, about whom he gives characteristic particulars elsewhere in his work, like their skill in pole-jumping and their familiarity with living in regularly flooded coastal plains. For, the Seventh of the Seventeen Charters states that the Frisians were freed from the northern yoke of bondage, their 'elepscelde en huslotha' – sound debt and homestead money, by king Charles, and that henceforth they paid to the southern prince. The West-Lauwers-Frisian variant of the Ninth Charter further states that the 'huuslaga' was to

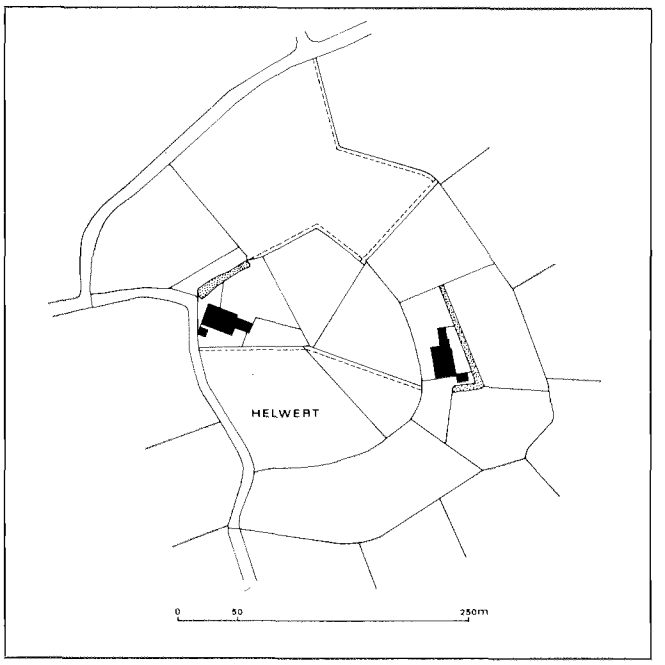


Fig. 8. The terp of Helwerd, according to the original survey made between 1812 and 1832 (*'kadastrale minuutplan'*). The dwelling mound became depopulated after the land surrounding it had been diked in

be paid in coins, 'alsoe wichtich, dat men moghe hera clinnen in een lewyn wr nyogen fecke huses'. Or, as a Lower-Saxon translation from Emsego says 'al vulwechtich so dat mense yn eyn loefbecken moghe horen klynghen over IX vake huses'. This was one of the reasons why Gosses took the 'tributa, que huslatha et cogsculd dicuntur', the proceeds of which, in so far as levied within the boundaries of the diocese of Utrecht, Otto I presented to the bishop in 948, to be a Danish defence tax, which after the year 885 was maintained, but was believed to have been collected by the king's officials instead of by Godfrey's servants. Some years later Gosses reverted again to the meaning of the word 'cogsculd' and came after all to the conclusion that it was to be regarded as a 'duty levied on commercial cock-boats' rather than as a 'tax of war cock-boats'. Recently M.P. van Buytenen once more gave his opinion on these matters and argued that it was a tax which was to defray the costs resulting from claims to compensation owing to losses suffered by Frisian merchants from assaults on trade routes, on land or by water in the king's domain.

An undisputed explanation is the one given by Gosses of the word 'hevene'. This term has been encountered in Walcheren sources since the 13th century, as referring to a tract of land whose owner was to see to it that at the count's summons two armed men reported for duty. Gosses took the Zealand 'hevene' to be derived from the Danish 'hafna', an expression used in the island of Sjaelland for the territory the owners of which were to supply a fully equipped man for the rowing benches of a man-of-war. A 'hafna' in turn formed part of a 'skipa', which guaranteed the complete crew of one of the ships put into service by the district in question for the defence of the country. As Walcheren, of all the Dutch coastal districts, has felt the oppression by the Danish lords most strongly and for the longest period, the occurrence of 'hevenen' in this very island went far to substantiate the correctness of Gosses's argumentation.

The legal provisions in Latin as well as in Frisian, recognized in the late Middle Ages in the coastal region between Vlie and Lauwers, still account for the Viking menace. We concluded this already from the Seventh of the Seventeen Charters 'Frisiones olim ultra oceanum subditi erant' or, as it is written in Frisian: 'alle Fresan north herden an tha grimma herna', 'alle Fresa er north herden over thet hef an da grimma herna, and thet al hethen was, thether Fresena was', 'alle Fresen in dat noerd koningrijck heerden oen da grimma herna'. The Riustring text, dating from the turn of the 13th and the 14th century, even cites king Radbod: 'al with thet wi er north herdon redbathe tha un freth monne al thet frisona was'.

According to the Tenth Charter the Frisians were allowed to restrict their duty to answer a summons to war – which up to then had extended to the Zwin on the one hand, the Elbe on the other hand – to Vlie and Weser. Friesland west of the Vlie had apparently already fallen beyond the horizon of the codifiers of these Charters, while the Frisians from the country of Wursten, on yonder side of the mouth of the river Weser, or North-Friesland, across the Eider, were also left out of consideration. In general, the Frisians would on no condition have to travel in a southern direction beyond the point from which they could have returned to their homesteads before nightfall. The services granted by the Frisians to king Charles down into Hungary had evidently not been remembered either although one might argue that king Charles had granted this favour to the Frisians in recognition of armed assistance in foreign parts, in this case in Rome, about which such beautiful legends were circulating. Although the Tenth Charter does not explicitly mention the Vikings, the text clearly refers to them where we are given the reason of the privilege: 'ut eorum possint patriam tenere contra fluctus et contra gentilem exercitum', 'wither thena

hethena here', 'with thene north-hiri' – in order that they might defend their country against the waves as well as against the heathens from the North.
Incidentally we could repeatedly note that the kidnapping of men, women and children by the Vikings with a view to enslaving them or to release them against ransom was one of the scourges of their raids. Meanwhile, those left behind did not stop to wait indefinitely for the return of the missing ones: social life in the raided areas had to resume its course. If a captive Frisian returned to his country after some time, he could trust Frisian legislation to restore his rights and guarantee his property without having to go to troublesome lawsuits or combat.
The law such as the Fourteenth Charter also provided for cases in which children were freed or ransomed from Vikings and their heritage became involved.
Also the Third of the Twenty-four Rural Laws provides legal protection of captives returning to Friesland from the hands of the Vikings, against those who in the meantime might have bought their property. According to the Second of the Twenty-four Rural Laws the 'scultetus' or 'frana' was to assist the child who, grown to maturity, refused to accept the alienation or sale of its heritage by its mother, even if this had been done with the consent of the relatives. However, one recognized three 'haudnede' or 'capitales necessitates' under which this alienation was regarded as irrevocable and the mother was granted permission in advance to sell the child's portion: the necessity of ransoming the child from oversea in the North or across the mountains in the south; to protect it from death in case of a famine; to bring it up when the father, enclosed under the earth in an oak chest with four nails could not provide cover, food and shelter.
All these sufferings inflicted by the Norsemen upon the Frisians were aggravated by the shameful behaviour of some people from the border regions between Schleswig-Holstein and Denmark. They did not shrink from taking advantage of the helplessness of the unhappy ones who had succeeded in escaping from Danish slavery and had crossed the border to reach their country. Bishop Rimbert of Bremen, who is already known to us (he took office in 865), availed himself of an opportunity in his biography of Anskar, the apostle of the Danes and Swedes, to protest vehemently against these practices. One had the sad courage of catching the fugitives again and selling them to the Danes or keeping them as serfs instead of helping them on.
The Twentieth of the Twenty-four Rural Laws furthermore exonerates any Frisian who should have been dragged away by the Norsemen, but was afterwards forced in his own country as 'servus' to take part in acts of violence. Finally, of a general political purport was the Second of the Seven Over-Laws, which exhorts the Six Frisian Sealands to come to the aid of the Seventh if it should be attacked by knights from the south or by rovers from the north. The oldest Hunsego text handed down to us reads:
'Thi other kere alra fresena. Ief ther eng lond ur herad urde, ouder fon tha sutherna sereda, ief tha fon tha northeska wiszegge, thet tha sex tha sogenda hulpe thet hit alsa wel machte sa thera sex hoc'.
The First of the By-Laws, dating from the year 1323, constituting the 'Upstalboom-Charter', although once more providing for mutual assistence, no longer mentions the nation or the origin of the threat to Frisian Freedom. This is not surprising, for the Viking menace had faded so much in the meantime that legal provisions to this effect were no longer necessary. One may even be surprised that this necessity was still felt by the codifiers of the Seventeen Charters, the Twenty-four Rural Laws and Seven Over-Laws. Although many investigators were of opinion that these collections date from the 11th century, we are convinced that Frisian society was not ripe for them before the end of the 12th century, while the perfection of this jurisprudence was not to be attained until the 13th century.
Meanwhile, the two Sheriff's Rights still precede the aforementioned legal provisions in age. The second provision of what is called the Old Sheriff's Right assures the Frisians that they shall never be obliged to stay away from home longer than half a day if they should be summoned to arms. Such was provided in order to enable them to defend their land against the sea and the Norsemen. With sword, shield and spear the Free Frisian's equipment was thus not complete, for also spade and fork had to be at hand in case messengers or fire beacons summoned the population to arms: 'Thit is riucht thet thi Fresa ni thor fira hereferd fara, thur ban ni thur bod, than mittha ebba wt and mittha flode up, truch tha ned, thet hi thenne ower alle degan wera skel with thennen salta se and with thenne wilda witsing, mith fif wepnan, mith spade and mith forka, mith skelde and mith swerde and mith etkeres orde thur hi thanne ower waria skel, bi enre liudwerthene, ther hit him keth worden mith boda lefta mith bakne. Iefta sexarum swera, thet hit him mith boda ni mith bakne keth ni worde'.
In this connection reference may be made to the Annales Egmundenses, where it is reported how in the year 1132 the West-Frisians untimely broke off a promising campaign against the Count of Holland and even evacuated the court of the count at Haarlem again without striking a blow – to the great dismay of the inhabitants of Kennemerland who

had risen in the meantime – simply because it was not the custom of the Frisians to spend the night outside the borders of their territory: 'quia Fresonum mos est numquam vel rarissime extra suos terminos pernoctare.'

VI

Longer than was perhaps desirable within the framework of our task, we dwelled upon sources and events, situations and traditions which strictly speaking no longer take root in the Viking period proper, however much in other respects they were the echo thereof. Still, our survey would not have been complete if we had neglected drawing attention to them. The same reasons also force us, in conclusion of our argumentation, to dwell upon some other matters which are closely related to the period of the Viking domination. For, the folk-tales survived the Frisian laws for a very long time; of these the belief – kept alive up to the present days – in what are called the Danish gateways may be called the most pronounced example: the low, often bricked-up entrances in the northern side wall of nearly all the medieval village churches in the Frisian coastal regions, including the district of Drente. Arend Lang in 1934 devoted an excellent study to them and, logically, pointed out that none of these churches had been built when the Viking menace was a threat in Friesland, let alone anybody could force the inhabitants to provide their churches with northern doors in order to make the Frisians incline their heads as a token of submission to the Norsemen each time they left the church. Contrary to this absurdity, these northern entrances had acquired their small height only in later centuries through the gradual raising of the surrounding church yard and because the path leading up to the northern gate fell into disuse.

These northern side doors themselves were, it is true, a Frisian peculiarity, in which connection it should be noted that they invariably had a southern counterpart. Lang subsequently showed that this pair of doors was also a peculiarity of many English churches, the more so because in both areas a western entrance was often missing and the two doors facing north or south were invariably at the western end of the side walls. Now Lang applied the problem to religious uses by stating that the northern side door led to the space where the women worshipped, the southern one likewise to the spot assigned to the male church-goers. When somebody was buried the coffin was carried into the church through the northern door, and out of it through the southern door. Processions left the church through the northern door, to enter it again through the southern door. For baptisms and marriages only the southern door was used – through the northern door everything that was driven away could escape. This was at the root of the relation suggested between northern door and the evil, to which it was directed – 'tha grimma herna'. All these findings now made Lang wonder whether the wooden predecessors of the medieval tuff, granite or brick churches in the long-drawn Frisian coastal region had also possessed the characteristic of the two entrances, which feature might then be called Anglo-Frisian and derived from the influence of Anglo-Saxon missionaries who not only preached the Gospel to the Frisians, but also built the first churches for them – Willibrord and Winifred with their companions in the diocese of Utrecht; Liudger, who, although a Frisian, had been trained in the English town of York, in the diocese of Munster; Willehad in the diocese of Bremen. On the other hand, the Anglo-Frisian system is lacking in the non-Frisian, German regions where Anglo-Saxon missionaries were active as well. Besides, it would seem too risky to explain the connection between the group of churches in Drente and those in Friesland by the relatively brief stay of Willehad in the fields of Drente while we have only too scanty data available on the medieval wooden churches in Drente and the Frisian coastal regions ever to hope to arrive at conclusive evidence. Still, a fact is again that the very three oldest churches in West-Friesland and Kennemerland, contrary to the clay and sand regions on the other side of the Vlie so exceedingly poor in churches from the 12th and 13th centuries, can boast of northern and southern entrances in the western ends of the side walls – Oosterland in Texel, Heilo and Velsen. The first author who to the best of our knowledge called attention to the exceedingly low doors in the Frisian churches and also accounted for them was de 'Clerc from the low countries by the sea', who completed his work between 1404 and 1409. Meanwhile his version differs from the traditional one in that he does not talk about church doors but about house doors, which, moreover, did not face north but east. This was done at the command of count Dirk II, after he had subjected the West-Frisians in the year 972:

'Dese grave begonde in twidracht te werden mitten Westvriesen, daer hi teghens oirloghede ende street ende maecte hen onderdanich, ende dwancse daer toe dat sy hoir doren van horen huysen in dat oost maecten, ende die so lage, dat si inden inganc ende wtganck bocken ende neygen mosten in onderdanicheit horen rechten heer, wanttet een onbekent volc was van wanzeden'.

The version about the Vikings is first of all found in the chronicles of the East-Frisian Eggerik Beninga (1490–1562): 'De Fresen musten ook int Norden aan ohre huesen enge en

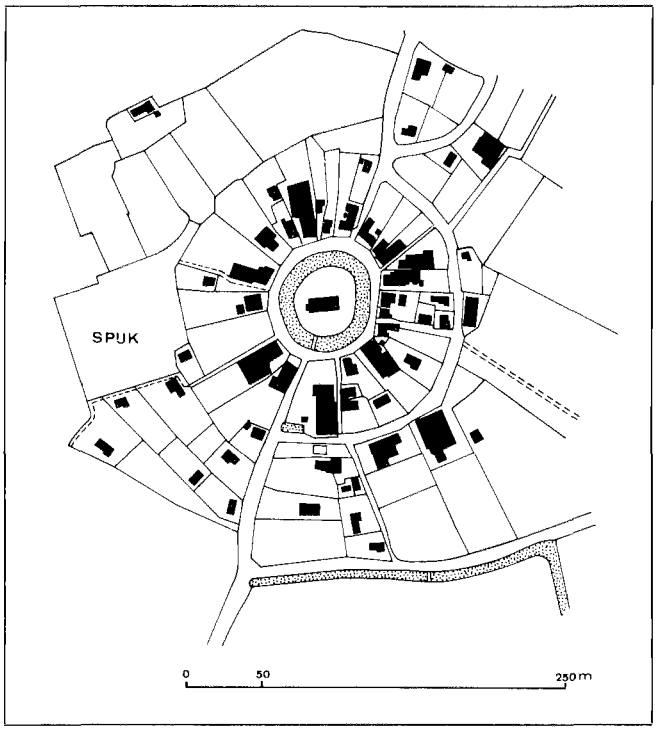


Fig. 9. The terp village Spijk (Groningen), according to the '*kadastrale minuutplan*'. A church with churchyard, surrounded by a ditch, is situated on the highest ground; this was encircled by a road with adjoining housing development; the whole encircled by a second road. The buildings outside the second ring-road date only from after the construction of the dikes

klene doeren laeten macken, um den Koning van Norwehgen in uitgahn en ingahn de reverentie en Ehr to bewiesen'.
Older letters, meanwhile, can show a tradition running parallel with the story of the doors, the root of which we find already in Old-Frisian laws.
This tradition mentions wooden collars or nooses made from bark, which the subjected Frisians had to wear round their necks at the command of the Danes. Melis Stoke already made fun of it in his Chronicle of Rhymes between the years 1289 and 1291:
'Van desen (scil. Karel die grote) beroemen hem de Vresen
Dat si waren ghescouden vri:
Want in sinen tiden, segghen si,
Waren si so eighin ende als,
Dat si strop droeghen omden hals.
Ende om dat si hem Rome wonnen,
Dat wi ghevinden niet en konnen
In ghenen ystorien bescreven,
Soude hise vri hebben ghegheven'.
This motive formed a very popular component of the 13th century's Frisian literature of freedom, and certainly also in West-Friesland, where the Frisians had a harder time than wherever in the Seven Sealands. As appears from the minstrel's song with its improvised character, handed down to us in the two Hunsego legal manuscripts, the collars in the early part of the 13th century appealed to the imagination of all the Frisians. Even Eike van Repgow was acquainted with them, as appears from a passage in his Saxon World Chronicles, the basis of which had been laid before 1230:
'Men seget, dat de Vrezen erst darin (scil. Rome) quemen; darumme gaf in koning Karl, dat se immer mer vri weren. Se weren darvore so egen, dat se bande an deme hals drogen unde hadden lanc har; nu sin se aver hôbescoren to bilede erer vriheit'.
Gosses at the time explained how the story about the collars came into being. He referred to the Seventh of the Seventeen Charters, according to which the Frisians had bought their liberation from the Vikings with a tribute by which they 'comparaverunt nobilitatem et libertatem'. The corresponding Fivelgo text runs: 'etheldom and frihals', the much younger Westergo translation 'edeldom ande hiara frihals'. Now 'frihals', in conformity with the Old High German 'frihalsi', the Anglo-Saxon 'freols' and the Icelandic 'frelsi', means 'freedom', as already noted by Von Richthofen. In certain parts of 13th-century Friesland this word was no longer understood, however, and it was copied in two separate words, it being supposed that the Frisians had ransomed 'hiara fri hals', 'hiara fria hals', even more ridiculously, like the 14th-century Emsego text 'hira etheldom and hira fria helse', their free necks. The Riustring Charters dating from 1327 only mention 'fon there etszena withtha', the oak collars, 'ther alle Frison and tha hiara hals drogon'. And, if we could not guess what this was meant for Joannes de Beka can tell us:
'Idem Gotfridus Rex exinde Fresones sibi rebellantes rededit in vile servitutus improperium, ita quod omnes circa collum circumstrictum bajularent laqueum, ut unumquemque sine mora suspenderet, qui contra Majestatem suam aliquo modo rebellare praesumeret'.
For the rest, Beka – he finished his chronicle before 1348 – was of opinion that this Godfridus was the Norseman murdered in 885, and not his namesake, who had been killed already in 810. In this respect it is not of much concern to follow the further development of the story in a series of Dutch chronicles. Meanwhile, the Frisians do not mention the collars and nooses and it is only after Beninga that Ubbo

Emmius tells us something about the humiliating time of the Danes; he first deals with the story about Saxo Grammaticus, then to proceed to the stories about the collars and northern doors: 'Nostri homines, quae tradita per manus a majoribus acceperunt, aut in scriptis invenerint, plura adjaciunt'. Winsemius translates Emmius' story, printed in 1616, literally in his chronicle which appeared in 1622, to be in its turn copied again by Schotanus in his description of Friesland between Vlie and Lauwers, which was first published in 1659.

Quite independent, however, are Thet Freske Riim, the remarkable rhymes in Westlauwers-Frisian of the 15th century, which have been handed down to us in a 16th-century manuscript. However, this historically highly confused manuscript contains data which are important in other respects, and extensively dwells on the cruel tyranny exercised by an – unmentioned – Danish king from a stronghold on the Hunse near Groningen by his stadtholder, also son-in-law, called John.

It creates the impression of going back to a 13th-century source and in many respects differs strongly from the other Frisian legends. Thus, these rhymes place the seat of the Viking rule in the Gronenborg, a moat-surrounded hill castle on the Hunse at a short distance south-east of the town of Groningen. There is reference to 'thi koning van Danmerkum', but his name remains unknown; we do learn something about the 'huus to Gronenborghe' where the king's son-in-law rules with a heavy hand, until he is murdered by the Frisians. The king's daughter returns to Denmark, where she gives birth to a son, whose name is not mentioned either, but who, when grown to manhood, takes revenge upon the Frisians until bishop Willibrord and duke Magnus take pity on them. At last a battle is fought between the Danes and the Frisians on the Ems, where the king's only son is killed. The Frisians win the battle and hang the king's son by his feet from a tree on the mouth of the Ems. During the night the king returns in secret, cuts his son free from the tree and sails back with the body to Denmark, never to return.

Tangible memories of the Danish raids in the form of archaeological finds in the Frisian coastal regions have so far been very rare. Besides, some ornaments from Danish, Swedish or Norwegian origin from the period under review may have arrived here through trade, such as the silver treasure from the terp Bruggeburen near Winsum in Baarderadeel (pl. x). It consisted of five so-called Thor hammers, to be worn as an ornament; three similar hammers connected to a ring; two finger rings; four separately shaped pendants of divergent shape and size. However, the treasure dates only from the second half of the 10th or the first half of the 11th century. Among the numerous finds from the soil of Dorestad was a bracelet plaited from four pieces of gold thread, dating from the 9th century and of Scandinavian origin. Naturally, this ornament need not have been lost here by a Viking, but may have been brought here by merchants from Schleswig or Birka, with which Dorestad is known to have had direct relations. Of northern origin is also a gold finger ring, as appears from the characteristic stamped triangles.

Also the Domburg beach supplied various ornaments, originating from the region of Walcheren which was swallowed up by the sea, but of Scandinavian origin. Besides, Scandinavian origin has been claimed for numerous finds dredged from the Rhine, Waal and Meuse rivers, terp finds from Friesland and Groningen, as well as soil finds from the city of the town of Utrecht. However, the description, such as of the contents of the horseman's grave from the terp of Antum on the mouth of the Aduard Diep, calls for caution. This grave contained the mortal remains of a warrior buried with horse and armour (fig. 6, p. 90–1). Now, if the date of the weapons found in the grave were fixed and could be traced back to the 9th century, it would not be necessary of course to reject the theory of a Norseman who died in foreign parts and was buried in the heathen way. An earlier date, however, would seem not to be precluded at all; this would then also undermine the hypothesis according to which an iron lance head, comparable with one of the two spear heads found in the grave at Antum and dredged from the Reitdiep (fig. 7, p. 95), not far from Groningen, would be related to an attack by the Danes, in which the town of Groningen was plundered and Walfried was killed.

Undisputably Danish, however, is the beautiful bronze buckle, unearthed with remnants of human skeletons when the supply canal to the Northern locks at Velsen was dug and dating from the first half of the 10th century. We are here apparently concerned with a grave, and judging from the beads of pearls found, a woman's. In other respects this find is difficult to fit into a certain event. On the other hand, the question arises whether the numerous finds of treasures of coins from the 9th century, known from the northern coastal regions of the Netherlands, can be ascribed to fear of the Danes. In this connection we mention the terp finds near Achlum, Kimswerd, Pingjum, Midlum, Winsum, all in Westergo, as well as the find near Rijs, on the sandy soil of Gaasterland. Oostergo supplied a treasure find from a terp near Oudwoude, Fivelgo the terp finds of Marsum and a hamlet near Loppersum, as well as the sandy height of Wagenborgen in the Oldambt. Meanwhile, similar treasure finds are also known from the adjacent Drente, such as Midlaren,

Fig. 10. The refuge mound Burg on Schouwen (Zeeland), built as defence against the Norsemen, and the village of the same name developed on its western side, compared with Burg on the island of Texel (Noord-Holland) which was possibly also a stronghold dating from the time of the Norsemen

Odoorn, Dalen, Roswinkel and recently again Ide, while in addition also Ter Apel in Westerwolde must be mentioned. Would it be possible that the Viking menace has been felt also in these regions?

In conclusion, we must turn to the Kudrun song, which according to many investigators would be the reflection of the Viking domination, at one time exercized by men like Hemming, Rudolf, Rorik and Godfried over the delta of the Scheldt, Meuse and Rhine rivers. Although this thrilling, often moving epic was handed down to us in a manuscript of 23 poetical works, composed by Hans Ried between 1502 and 1505 by order of the Emperor Maximilian, it is almost certain that the text comprises a – by no means faultless – copy of a poem completed round about 1240 and written in High German. The story can be divided into two parts, the figures and actions of which show a remarkable parallelism. In the first part Hilde dominates the scene, in the second her daughter Kudrun. In 1954 B. Boesch demonstrated conclusively in our opinion that the second part is not only of more recent date than the first, but is in essence a reiterating treatment of it. The first story is based on a very old history which Saxo Grammaticus still knew and which dealt with Hilde, daughter of Hagen, king of the Baltic island Rügen. Hilde was abducted by Hedin, king of the Gloms, a people living on the coast of Pomerania, from which Hiddensee is said to have been derived. Hagen pursued Hedin until he overtook the fugitives near Hiddensee, after which a fight followed. Without intention Hedin killed his bride's father and thus tragically defeated the marriage, which also Hilde had wanted.

In the 9th century, Busch assumed, the Scandinavian story found its way to the delta of the Scheldt, Meuse and Rhine rivers. Here it became the nucleus of the Lower-Rhine minstrel's song, which was to become very popular in the 12th century, finally to be digested into the courtly novel which pleased the nobility of 13th-century Bavaria and Austria. For, Zealand also knew its 'Heiden Zee' which, although not being an island, was a watercourse with a name composed of the suffix Ee, in agreement with the origin of the water name Zieriks-Ee to which the town of Zierikzee owes its name. This 'Heiden Zee' now separated Flanders and Zealand and formed a passage between the islands of Koezand and Wulpenzand, from the Zwin to the Honte. It could thus happen that the motive of the pursuit by sea was lifted from the Hilde saga and was made serviceable to quite a new creation – the Kudrun song proper, on the understanding that Hedin, Kudrun's father, was to have overtaken his daughter's abductors near Wulpenzand, 'Wülpenwerde' or 'Wülpensant', to die there.

Naturally, 'Kassiâne', the castle of the Norman Ludewic, to which Kudrun was abducted, may be Kadzand, just as 'Waleis in de marke', up to which Hedin pursued Hartmuot, Ludewic's son, Walcheren.

Still, it is carrying things too far if any belief should be attached to the concept of B. Symons, that real stories such as the investment of the Dane Harald with Walcheren in the year 837 would have been the basis of the Zealand 'adventures'. The statement of F. Panzer that the principal figures from the Kudrun song should show the features of Godfrey, Siegfried, Gisela and Charles III, measuring each other's strength during the siege of Elslo in the year 882, is neither here nor there. Pure fantasy is also J.W. Vorrink's recent argumentation, where this investigator arrived at the conclusion that the Kudrun must have been written by the Egmond 'versificator' Fredericus, by way of homage to countess Gertrud, wife of Robrecht the Frisian and widow of count Floris I of Holland. Neither has he been able to convince us that it was an epic put in symbolic language, in which one was to recognize the genealogical history of the Dutch Gerulfings.

Indeed, the Kudrun has oftener been misused for scientific nonsense. Thus, a relation was in full earnest derived between the arms of 'le roy de Frise', as this became the vogue in the course of the 15th century in the circle of the French-Burgundy heralds and was recorded in the armorials, and the coat of arms scattered with hearts or with water-lily leaves, which was claimed to have been carried in former times by the Frisian kings. This assertion, which although not substantiated, was believed to be supported by the description of the standard cut from sky-blue silk and carried by Herwig, Kudrun's love and ornamented with 'sêbleter'. E.H. Waterbolk in 1957 demonstrated that the Frisian king's arms, which for political reasons were badly wanted towards the end of the 16th century, were an artificial affair for which prominent authors such as Joachim Hopperus and Suffridus Petrus must have consulted the old armorials. However, also these representations are not based on facts. If one wants to stress the correspondence between the Frisian blazons on the one hand and the Danish and Swedish on the other, which also display hearts, it is not justified to account for this phenomenon as a proof of common descent, or even political bond, especially in the time of the Vikings, perhaps even already in the period of Radbod. On the contrary, it should be regarded as a result of the consideration of the heralds that the Frisian royal arms still to be designed should show at least some relation with the existing blazons of the Danish and Swedish kingdoms, which extended even further north. In this connection Waterbolk cited the cron-

icle of Abel Eppens (1534–ca. 1590) originating from Eekwerd near Appingedam:
'Welcke 11 harten konick Rabbotus, over die Vresen int yaer 600 een tyran siende, uth Norwegen over die Vresen harscapie gedreven hefft und dit Noertweges wapen gevueret hefft, als en yder noch zien kan in die wapenen van den konick van Denemarcken, Norwegen und Sweden presentierende'.
Even if – from a historical point of view – the Kudrun song should, apart from its literary value, not have the least significance for the knowledge of Viking-dominated Friesland, it gives evidence of the sound-board which the Viking motive found in large parts of Europe down into the late Middle Ages.

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J.V.S. MEGAW[1]

A Carved Cult Figure from Maastricht

During February 1949 digging for house foundations in the area of Maastricht known as the 'Trichterveld' (for the precise locality see the maps Fig. 1) exposed a human skeleton for which a prehistoric date was at first assumed; this lay in a clay bed under redeposited löss. A party from the Rijksdienst voor het Oudheidkundig Bodemonderzoek investigated the discovery and deeper excavation of a foundation pit revealed two artificial caves which had been cut into the marl laying under the clay and löss layers (Fig. 2). Additional finds, all from the sediments overlying the marl, were restricted to some sherds of local Roman black glaze ware and two bronze fibulae – unfortunately not all at present traceable. The brooches were identified at the time by Prof. Dr. A.E. van Giffen as also being of provincial Roman workmanship. One of these, of which a sketch is preserved in the archives of the R.O.B., is a disc brooch of the type generally dated to the first-second century A.D.[2] Despite the possibility that all these objects may have been washed down from surface level, they suggest at least a period of no great antiquity for the burial and a general *terminus ante quem* for the marl cuttings themselves.

Of greater interest was the figure in low relief found on the dividing wall of the two caves. This can be seen to be a crudely executed figure of a man 87 cm high, wearing a tunic and, less certainly, trews with a pronounced phallus and scrotum superimposed in the approximate area of the stomach. A cast of this figure was taken at the time of the excavations and is preserved at the R.O.B., Amersfoort; photographs of the cast give a better idea of the details of the carving (Pl. XI). Curiously enough a generally similar positioning of carved male figures in what may best be interpreted as local mining works was noted in the examination of the Roman stone quarries at the Brunholdisstuhl near Bad Dürkheim in the German Pfalz.[3] Here the site was shown from inscriptions to have flourished between A.D. 250–300. Amongst a number of roughly carved figures and symbols on the exposed surfaces of the quarry, three – presumably male – are reproduced here (Pl. XI

Fig. 1a. Location of the 'Trichterveld', Maastricht

1 Department of Archaeology, University of Sydney, New South Wales, Australia.

2 Compare Van Buchem 1941, pl. III.

3 Sprater 1935; Kühn 1935, 348–9.

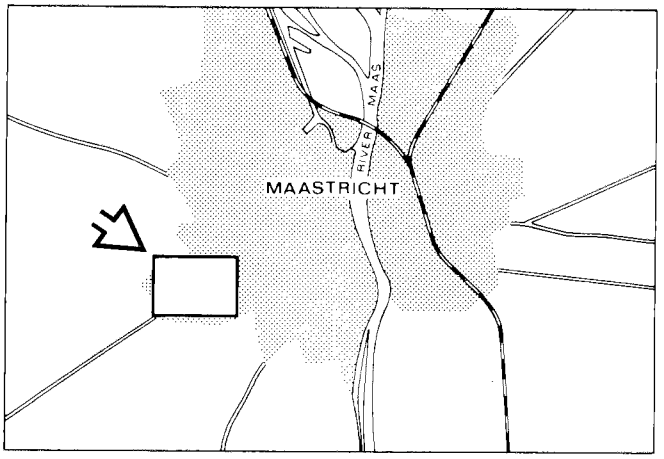

Fig. 1b

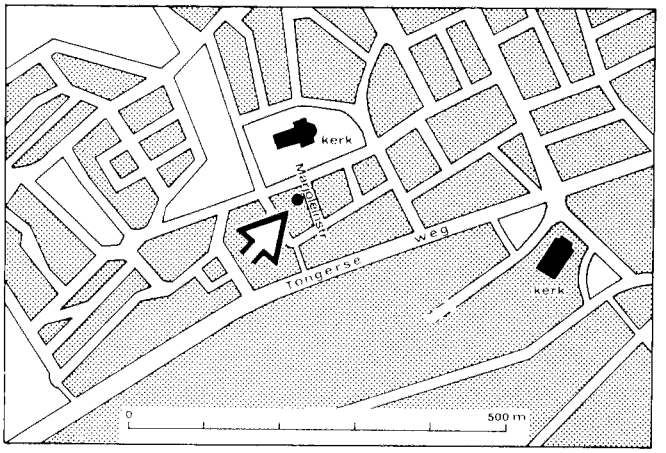

Fig. 1c

below). Sprater regarded these and their attendant symbols – radiating 'sun-wheels', horses, a snake and birds – as equating with the Germanic gods of summer and winter, Donar and Wodan; like the Maastricht figure at least one (Pl. XI below left) appears to be phallic. Sprater's further comparison with the Roman Jupiter and Mercurius may be apposite, at least with reference to their more ambiguous Celtic manifestations.[4] Another male figure from Germany, simply carved in low relief, is that from Hemmendorf bei Rottenburg.

Recently republished in connection, interestingly enough, with a series of sandstone cut grottoes also with simple scribed designs in the same tradition as, but probably later in date than those from the Brunholdisstuhl, the Hemmendorf figure was found in the excavations of the Roman *Colonia Sumlocenne* (Rottenburg); a torch is held aloft in the right hand. Like Maastricht, it is clothed and has the same pointed – perhaps bearded – chin.[5]

Other direct comparisons with the Maastricht figure are hard to find on the continent although the principle of free-standing phallic pillars may be seen in such Early La Tène monuments as that from Pfalzfeld, St. Goar[6]. Clearly phallic is the late Hallstatt nude warrior from Hirschlanden, Kr. Leonberg[7] and the probably La Tène statue from Stammheim, Kr. Calw[8] while phallic emblems are certainly associated in Roman Gaul with local 'Mercurius' figures.[9] A number of wooden figures with sexual characteristics emphasized are known from Scandinavia, northern Germany[10] and, most recently, France.[11] Of these best known is the male and female pair from Braak in Holstein while similar wooden figures, usually male, have been found in the British Isles.[12] From Ralaghan, Co. Cork in southern Ireland comes another wooden figure which, like the English example has provision for a detachable phallus.[13] None of these can be dated with precision but most are probably not older than the first centuries A.D.

When one comes to look for other parallels in stone for the Maastricht carving, far and away the largest number are figures from the north of England and Scotland. From an early chapel at Over Kirkhope, Selkirkshire, is a sandstone block *c.* 130 cm high showing a man with short tunic and arms upraised (Pl. XII). As with Maastricht there is a suggestion of a moustache (compare Pl. XI above left) and in view of the phallic nature of the figure – made less clear by subsequent attempts at modesty perhaps when the stone was incorporated in the chapel – not too much should be made of the equal-armed cross carved on the chest and that the raised arms correspond to the early Christian *orans;*[14] the

4 De Vries 1961, 45 ff., 63 ff.
5 Paulsen 1965, esp. T. 38.
6 Jacobsthal 1944, no. 11.
7 Zürn 1964.
8 Ströbel 1952.
9 De Vries 1961, 44.
10 Riismøller 1952.
11 Martin 1965, pl. XLVI–XLIX.
12 Thomas 1965, pl. 317–20; Fox 1965, 134, 242, and pl. 79–80.
13 Ross 1961, 74.
14 *R.C.A.M.* 1957, 69–70; Allen 1903, 431–2; Ettlinger 1961, 289 ff.

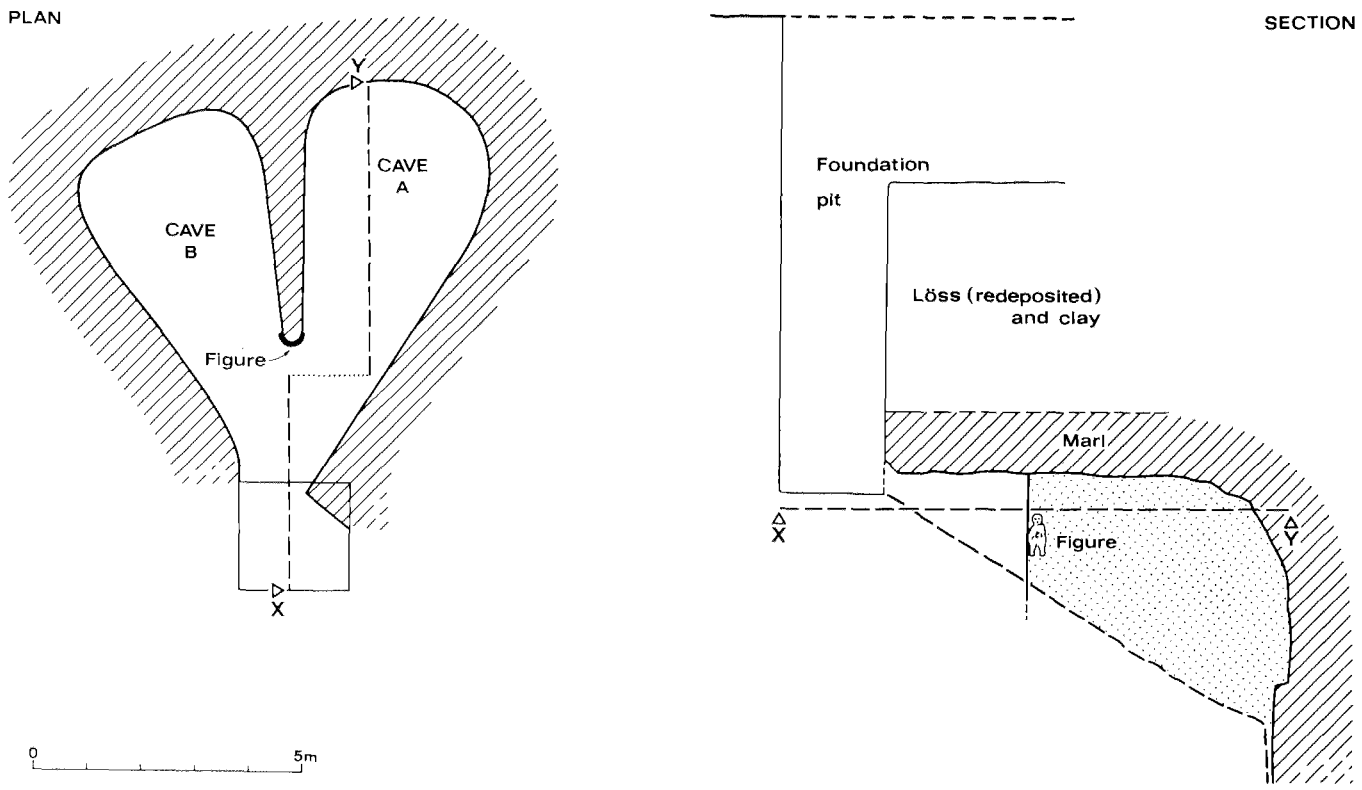

Fig. 2. Maastricht. Sketch plan and section of marl workings

attitude is again not dissimilar to one of the weatherbeaten figures from the Brunholdisstuhl (Pl. XI below).

A number of years ago Dr. Anne Ross drew attention to a group of horned and phallic local deities in Britain, representations of which have been found mainly in the region to the south of Hadrian's Wall obviously executed during the Roman occupation by native craftsmen still adhering to the symbolism of pre-Roman Celtic religion.[15] To be singled out is the naked horned warrior from Burgh by Sands, Cumberland,[16] while from Maryport (Roman *Alauna*) one of a number of figures clearly shows a local Mars complete with spear and rectangular shield,[17] and once more calling to mind the Brunholdisstuhl carvings.

Two reliefs from Kirby Underdale, Yorkshire, show the horned god naked but for a short tunic reaching to the thighs.[18] A blending between the native horned god or Cernunnos figure and the attributes of Mercurius as already mentioned can be seen on a slab from Great Chester *(Aesica)* on the Wall itself,[19] while finally from Bewcastle, north of the Wall, is a pair of third century silver plaques with armed warriors attended by one of the few examples of written identification, here naming the local god Coci-

15 Ross 1961, 72–6.
16 Ross 1961, pl. XV: 2.
17 Ross 1961, fig. 1.
18 Collier 1917, 321 and plate opp.
19 Ross 1961, 77, n. 30, fig. 3.

dius.[20] In none of these is the male member so well pronounced as on the Maastricht carving although individual amulets incorporating a phallus have also been found in local Roman military settlements on both sides of the English Channel.[21]

As to the reasons why a marl pit on the northern boundary of the Roman provincial empire should be adorned with so strange a figure as that found at Maastricht we have both the evidence of cultic rites at the Brunholdisstuhl and a recognition of the need to placate those deities concerned with material success and to ward off the dangers involved in primitive mining – the sort of hopes and fears which for the late Neolithic of Britain we have so clearly demonstrated by the obese and pregnant woman attended by chalk phallus and anther wedges found in one of the galleries of the Grimes Graves, Norfolk flint mines.[22]

In conclusion, then, although neither dating nor identification can be made with certainty, the Maastricht figure with its native dress – or undress –, clearly generative importance, and such parallels as have been quoted here has some claim to being a local cult figure placed in the course of marl working by native elements in the early centuries of our era. Such a picture is completely consistent with the British evidence for similar survivals of pre-Roman Celtic beliefs into the Roman and even post-Roman periods.

Acknowledgements

My thanks is due to Prof. Dr. W. Glasbergen, Instituut voor Prae- en Protohistorie, University of Amsterdam, for first bringing the Maastricht figure to my attention; subsequently Prof. Dr. P.J.R. Modderman, Instituut voor Prehistorie, State University of Leiden, was instrumental in searching out information and illustrations, while Dr. P. Glazema, lately Director of the Rijksdienst voor het Oudheidkundig Bodemonderzoek, kindly invited publication. To Dr. A. Ross, formerly of the School of Scottish Studies, University of Edinburgh, as so frequently before, I am grateful for discussion and advice.

20 Richmond 1938, 203, no. 15 and pl. XXXIV:2.
21 Corder 1948, 176 and pl. XXVIa.
22 Piggott 1954, 42, 88 and pl. IV; Thomas 1965, pl. 36–37.

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W. J. T. PETERS

Mural Painting Fragments Found in the Roman Castra at Nijmegen

To the memory of Prof. Dr. H.G. Beyen

During the excavations in the Roman castra at Nijmegen,[1] fragments of painted wall plaster came to light on several spots. Prof. Dr. H. Brunsting, under whose scientific direction the work is done in behalf of the *Rijksmuseum van Oudheden* at Leiden, kindly placed this material at my disposal and allowed me to publish it. Dr. W.A. van Es, director of the *Rijksdienst voor het Oudheidkundig Bodemonderzoek (State Archaeological Service)* which carries out the excavations, gave me the opportunity to make this study in close cooperation with this institute and its members.

Although I am fully aware of the fact that exact dating of the paintings is only possible when the excavations as a whole have been published, I nevertheless decided to present the results obtained up to now from the study of these painting fragments in the hope that this paper would incite others to produce possible comparable material.

As a rule, in the Nijmegen castra only small numbers of painted wall plaster fragments are found together, but in 1962, east of the Via Praetoria two comparatively large groups were discovered near to each other.[2] These finds were registered as nos. 900 and 971. In this paper we are concerned with these two items. A small number of fragments are not included, but these will be treated in a future volume of the *Berichten* together with the small finds.

Occupation of the Castra

In the castra in question as far as it has been excavated three building periods are generally found, the first two being represented by traces of wooden structures, the third one by remnants of stone foundations. The last wooden period and the stone period are mostly separated by a burnt layer (*cf.* fig. 1a and b).

The oldest traces of wooden structures are ascribed by Brunsting[3] to an Augustan occupation of the site; in that time there were only few buildings. The second wooden period is to be dated to after 71 A.D. when the Legio X Gemina came to Nijmegen;[4] then the whole castra was occupied by wooden barracks. Brunsting[5] thinks it possible that before 89 A.D. the Legio X Gemina began to replace these wooden buildings by stone ones. Brunsting[6] and Bogaers[7] concluded on the evidence of pottery fragments and tile stamps that after the Legio X Gemina had left Nijmegen probably in 103 A.D., these buildings were still standing for a long period. After the departure of the Legio X, the castra was guarded for some years by the Vexillatio Britannica, of which stamps have been found.[8] Bogaers[9] concluded that possibly in about 121 A.D. the Legio IX Hispana was moved from Britain to the continent, to the Nijmegen castra, where it stayed for a short time only. After its departure, the castra was guarded for

1 Preliminary find-reports: Brunsting 1952; *Nieuwsbull. K.N.O.B.* 9, 1956, 206; 10, 1957, 183–4, 227; 11, 1958, 120; 12, 1959, 114–5, 174, 216, 241–4; 13, 1960, 108, 132, 165–6, 215–7, 248, 265–7; 14, 1961, 35–6, 71, 91, 124, 184–5, 220; 15, 1962, 3–4, 4–5, 40, 67, 78–80, 101, 155–7, 187–8; 16, 1963, 87–8, 179–80, 226–7; 17, 1964, 130–2 (= Brunsting 1965a, 67–8), 302–8 (= Brunsting 1965a, 67–73); 18, 1965, 62–4 (= Brunsting 1965b), 125–8 (= Brunsting 1965c); 19, 1966, 16–7 (= Brunsting 1966), 84–7. Bibliography: Elzinga 1963, 80; Bogaers 1965a, 30, n. 9; Bogaers 1965b.

2 *Nieuwsbull. K.N.O.B.* 15, 1962, 79, 156.

3 Brunsting 1960, 23–7; Brunsting 1961, 49, 61–5.

4 Brunsting 1960, 23–4; *Nieuwsbull. K.N.O.B.* 15, 1962, 3–5; 16, 1963, 226–7.

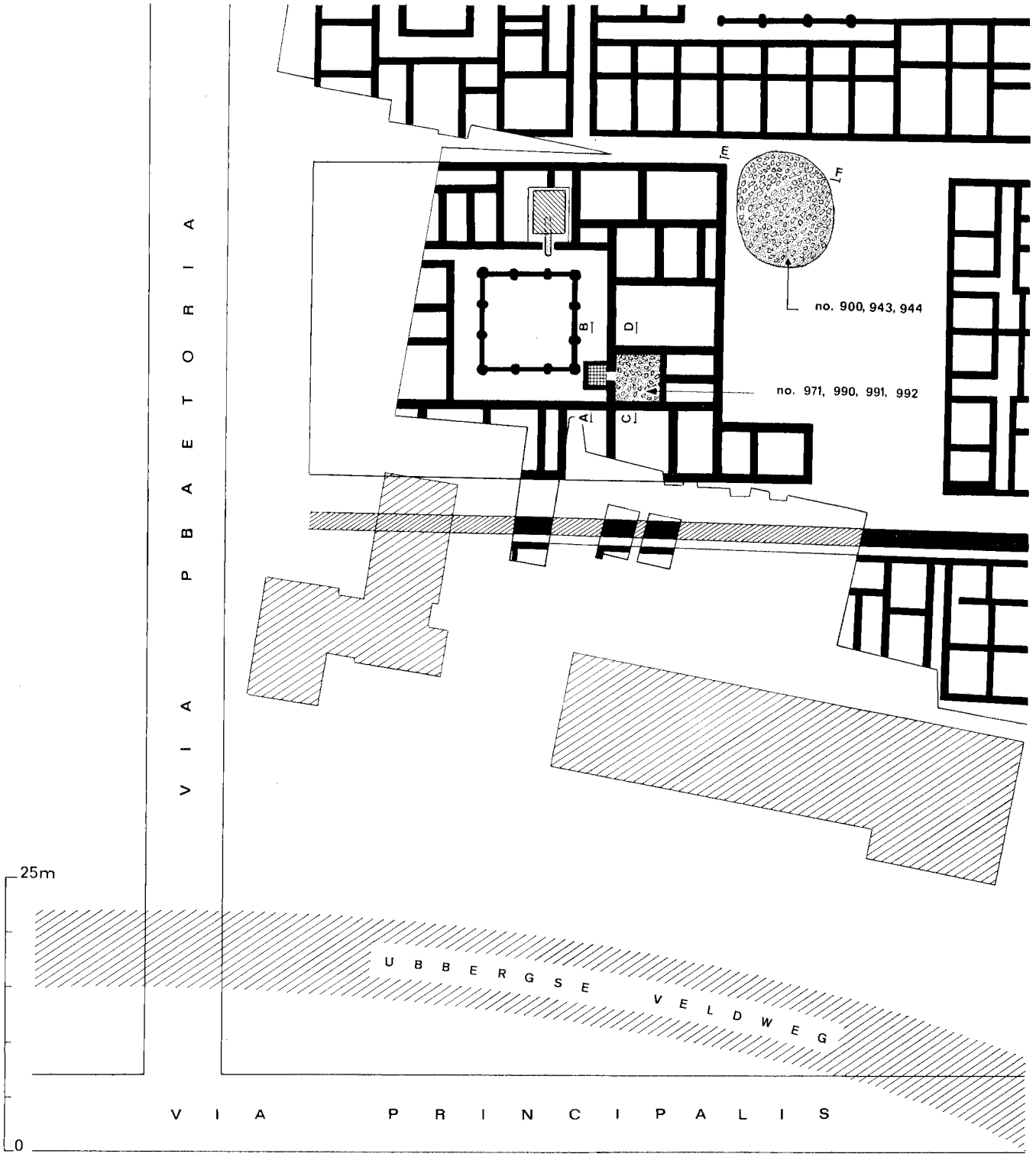
5 *Nieuwsbull. K.N.O.B.* 16, 1963, 226–7; 19, 1966, 86.

6 Brunsting 1960, 25–7; *Nieuwsbull. K.N.O.B.* 17, 1964, 302–6 (= Brunsting 1965a, 67–73); 18, 1965, 63–4 (= Brunsting 1965b, 96).

7 Bogaers 1965a; 1965b.

8 *Nieuwsbull. K.N.O.B.* 12, 1959, 243; 17, 1964, 302–7 (= Brunsting 1965a, 67–73); Bogaers 1965a, 20.

9 Bogaers 1965a, 26.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some further decades, presumably by a vexillatio of the Legio xxx Ulpia Victrix whose headquarters were in Vetera.[10] Finds from the castra make it improbable that it was inhabited after about 175 A.D.[11]

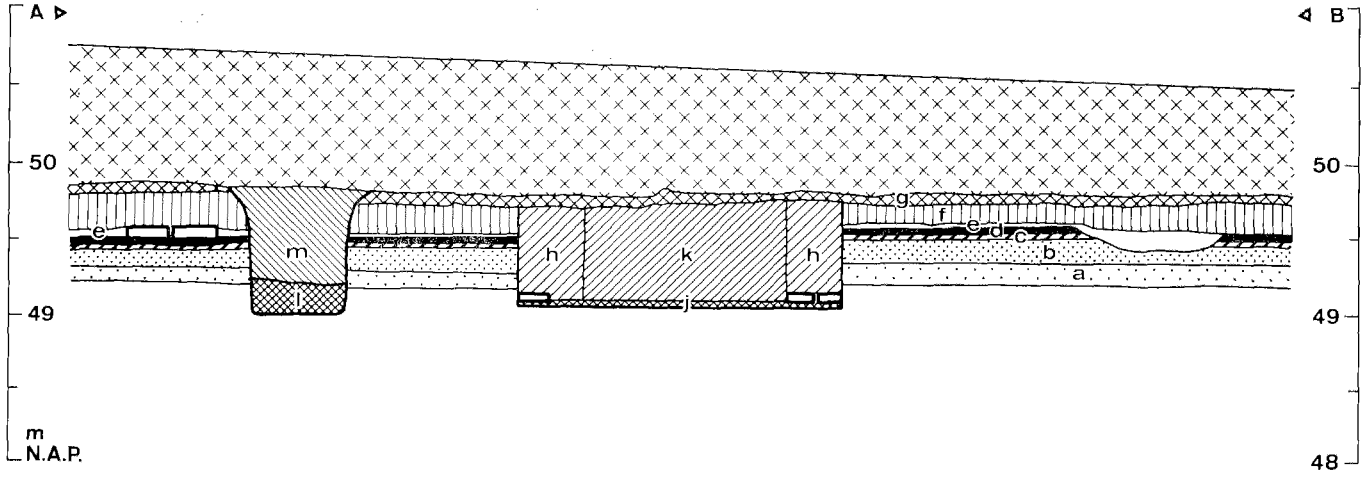
Find Circumstances of the Fragments (fig. 1a-b, 2)
The largest of the two finds of 1962, no. 900, came to light in a rubbish pit (fig. 1a-b, section E-F) east of the stone foundation remnants of a house whose peristyle was excavated in 1964; the west wall of the house unexcavated until now, lies along the Via Praetoria. The fragments of the other find, no. 971, have been found within this house between the foundations of one of the rooms[12] (fig. 1a-b, section C-D).
The rubbish pit just mentioned intersects traces of the early Flavian wooden period and later foundation-trenches which according to Brunsting have never been used (q on fig. 1b, section E-F). Together with the plaster fragments, pieces of tiles and *tegulae mammatae* (no. 983) and also a number of potsherds (no. 984) came to light. The finds were mixed with dirty soil. On the tiles several stamps were found from the Legio x Gemina (71–*c.* 103 A.D.); one *tegula mammata* has a stamp from the Legio XGPFD (89–96 A.D.). The sherds are all of ordinary pottery. As P. Stuart informed me there is one piece of about the beginning of our era, the other sherds ranging from 75–105 A.D.[13]
The room in which no. 971 was found lies on the eastside of the peristyle (fig. 2). Part of the floor was heated with hypocaust that must have been built in secondarily,[14] some time after the erection of the house (fig. 2 : 2). In the supply channel stamps were found in situ from the Legio XGPFD from which we conclude that the heating was put in after 89 A.D. Right across this room runs the foundation of a wall, which was apparently broken out when the hypocaust was introduced (fig. 2 : 1, 2). The painted plaster fragments were found on and between the rests of the lower floor of the hypocaust and in the *praefurnium*. Between them tile fragments were found with the stamps LXG, LXGPFD, LXGPF (96–*c.* 103 A.D.), and partly covered with mortar (no. 991).
The *terra sigillata* fragments found in this room (no. 992) range as C.G.A. Morren informed me from *c.* 65 A.D. to the first half of the second century A.D. Here ordinary pottery (no. 992) is represented by sherds which according to P. Stuart can be dated between 70 and 105 A.D.[13] Here also the finds were mixed with dirty soil.

Even at the first classification nos. 900 and 971 gave the same impression. At least ten decorative systems appeared to be represented and thus it is clear that the pieces which were found indoors, can only partly originate from the room itself. Considering that the material from indoors was also rubbish, one wonders if not all the fragments or part of them came from other houses.
It may be assumed that we are here concerned with remnants of paintings belonging to buildings from which the stone foundations have been excavated. In this connection it is important to point out that there are no traces of fire discernable on the stucco.
The mural paintings to which the fragments nos. 900 and 971 belonged, must have functioned until the first half of the second century A.D. as can be concluded on the evidence of the potsherds found together with the plaster fragments.

A Panel Decoration Combined with a Marbled Dado
In his find-report relating to no. 900 Brunsting[15] mentions the similarity of a great part of the fragments to the decoration of temple II at Elst.[16] This observation was confirmed when once the material of nos. 900 and 971 had been cleaned and roughly classified, for it appeared that many fragments must have come from walls on which the central zone decoration was based on a division into red panels, while black strips separating these panels from one another carried representations of candelabra. Furthermore it transpired almost at once that a group of pieces showing imitation of different kinds of marble must have been associated with the panels in the function of a dado; at the same time evidence for a low black socle was found. It was quite obvious that in more than 400 fragments we are confronted

10 *Nieuwsbull. K.N.O.B.* 11, 1958, 120; 12, 1959, 114–5, 174, 243; Bogaers 1965a, 26–7.
11 *Nieuwsbull. K.N.O.B.* 18, 1965, 62–3 (= Brunsting 1965b); Bogaers 1965b, 105.
12 *Nieuwsbull. K.N.O.B.* 15, 1962, 40, 67, 79, 101, 156–7; 18, 1965, 63–4 (= Brunsting 1965b, 96–7).
13 See: Stuart 1963, 6–7 (date of departure of Legio X).
14 *Nieuwsbull. K.N.O.B.* 15, 1962, 156; 18, 1965, 63–4 (= Brunsting 1965b, 96–7).
15 *Nieuwsbull. K.N.O.B.* 15, 1962, 156.
16 Bogaers 1955, 91–137, pl. 16–24.

Fig. 1a. Nijmegen, Castra. Find-spots of the fragments; sections (for no. 900, 943, 944 read: no. 900, 983, 984)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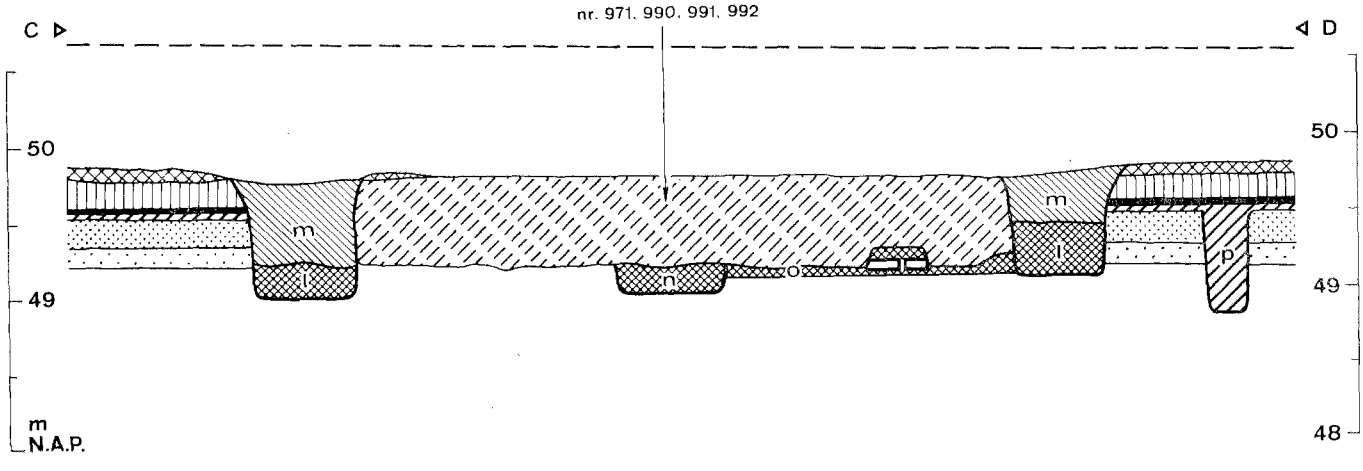
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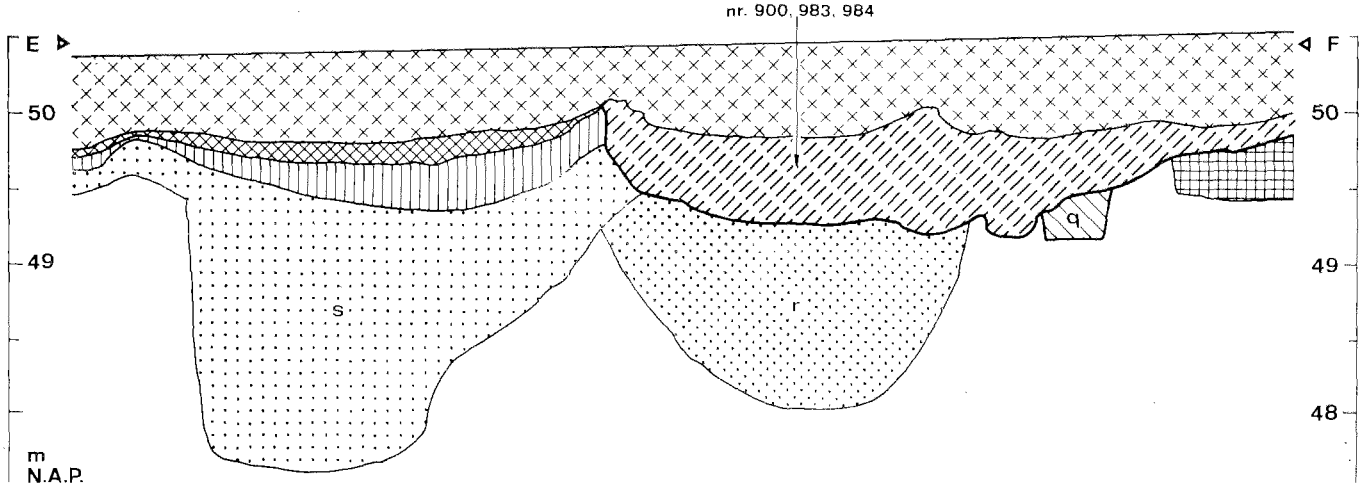
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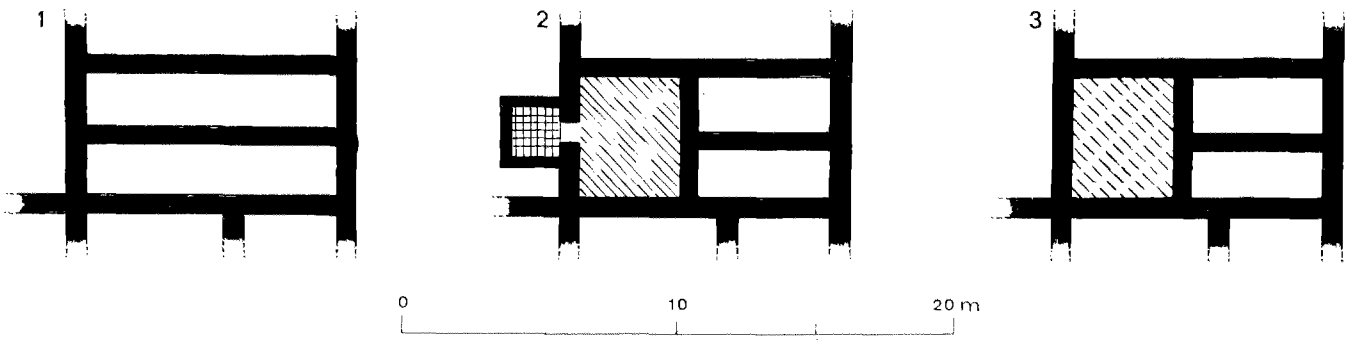


Fig. 2. The room eastside of the peristyle, in which no. 971 was found; three phases of evolution

with motifs frequently applied in Roman mural decoration and, as far as the central wall zone in particular was concerned, with a system which occurred frequently in Gallia and Germania.[17]

When these 400-odd fragments are put together they cover a surface of about 2 m². One can see the measurements of the most important fragments by referring to pl. XIII, XIII A and fig. 3–7.

The plastering of the walls from which the paintings come consisted of four layers. The majority of fragments have been broken off between two of the layers or within one of them. Only a few pieces preserve the plaster in its original thickness (*e.g.* pl. XIII : 5–9). Even the reverse sides of these pieces provide us with very little data to work on regarding the material and construction of the original wall. On two fragments impressions of building stones may have been preserved (pl. XIII : 7–8). From the motif on the front side we may deduce that these pieces were originally situated low down on the wall. This will be dealth with later (p. 121–2). Moreover, impressions of poles or rather broad laths are to be distinguished upon some fragments (*e.g.* pl. XIII : 5). The fragment represented on pl. XIII : 5 has been broken off along such a wood impression. The remaining pieces in which the reverse side of the undermost layer has been preserved, can be either rather smooth, or irregular. In neither case, however, are impressions of a definite material or a special structure to be observed. We can imagine a stone socle linking up with the partly preserved foundations of the third period on which half-timbered walls were built. Unfortunately, we have not enough evidence to establish this with certainty.

The plaster technique used on the walls from which our fragments come was probably as follows (see: J. A. Brongers, Appendix). Firstly two layers of reddish mortar were applied; in the fragments which are preserved the first layer has an average thickness of 28 (± 9) mm., the second of 45 (± 12) mm. Both were mainly composed of lime, gravel,

◀ Fig. 1b. Nijmegen, Castra. Sections.
a. Augustan layer. In this area no buildings.
b. Early-Flavian layer (wooden buildings).
c. Occupation level of the Early-Flavian period (cf. p).
d. Burnt layer on the Early-Flavian level.
e. Construction level of the first stone period (mortar, etc.).
f. Fill and occupation level (clay) of the Late-Flavian stone period.
g. Demolition layer.
h. Walls of the *praefurnium* destroyed by the Romans.
j. Base of the floor of the *praefurnium* (mortar).
k. Fill of the *praefurnium*, after it had been put out of use.
l. Base of the foundation of the Late-Flavian period.
m. Filling of robber trench.
n. Base of the foundation of a wall removed by the Romans.
o. Remnants of the sub-floor of the hypocaust, mostly broken up.
p. Wall trench of Early-Flavian stone building.
q. Foundation trench of Mid-Flavian stone building.
r-s. Rubbish pits, older than the pit containing plaster fragments, etc. (r is older than s).

17 Bogaers 1955, 132, enumerates the examples published before 1955 and gives references to bibliography; the mural paintings of Cologne-Müngersdorf and Vienne are to be found also in Borda 1958, 92–3. Published after 1955: Augsburg (Pettenkoferstrasse, Thommstrasse, unknown find-spot): Parlasca 1956, 12–3, 18–22, 27–9, pl. 1, 6–7, 11, 20; Cambodunum: Parlasca 1957, 96–102, fig. 15, pl. 31–3; Cologne, near the Cathedral: Doppelfeld 1962–3, 159, 162–3, pl. 30.

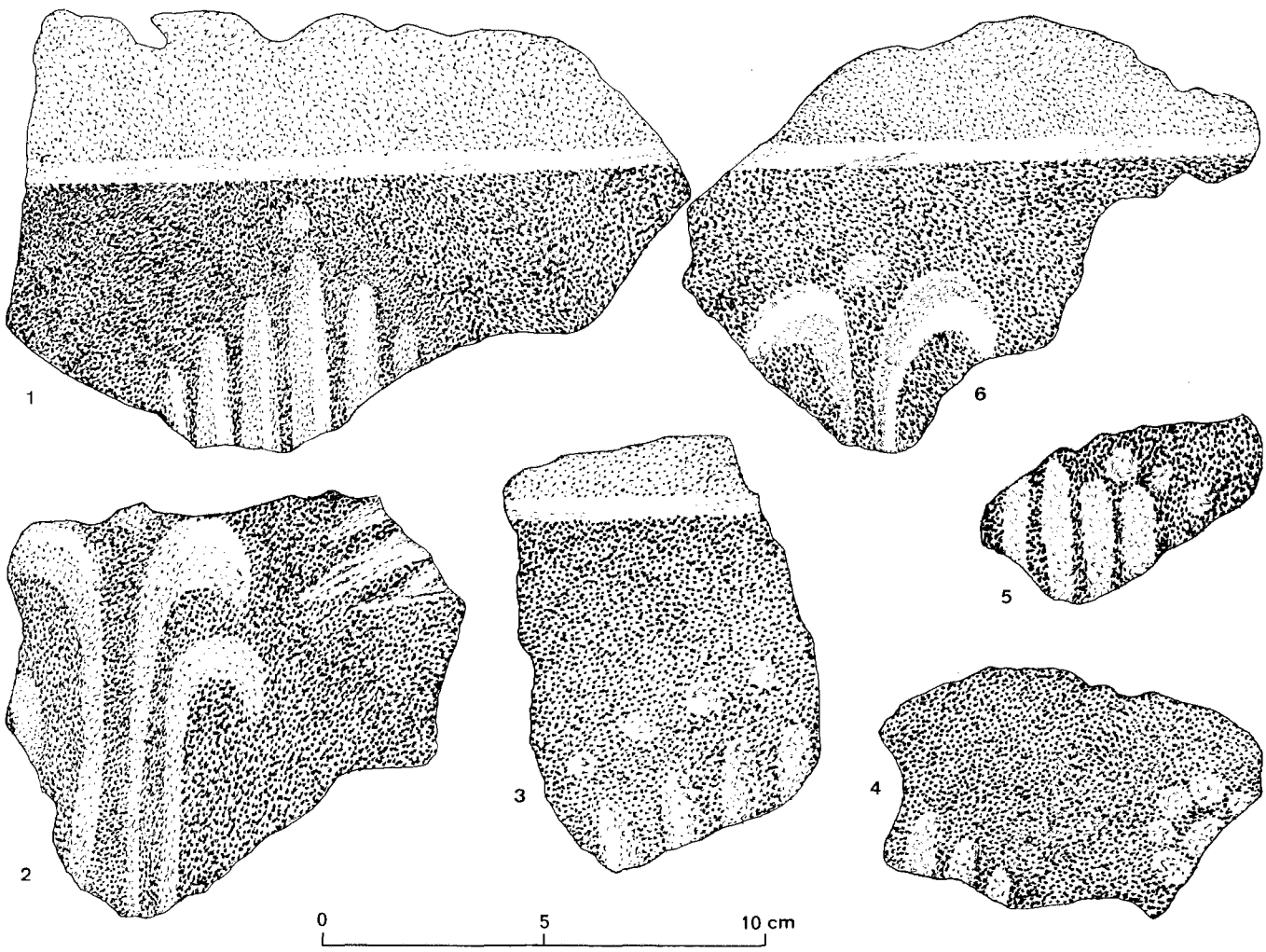


Fig. 3. Panel decoration, flower motifs

sand and ceramical material (tiles and pottery). This last ingredient causes the reddish colour, and sometimes a very large piece of a tile (*e.g.* pl. XIII:6) or an impression of it (pl. XIII:9) is to be found. On top of the second reddish layer a grey one was laid, mainly composed of lime and sand; in the fragments which are preserved this layer has an average thickness of 6 (± 2) mm. Finally the grey mortar was given a coating mainly composed of lime and very fine sand. It is practically impossible to measure this last coat. Sometimes it is a few millimetres thick, sometimes it only fills the pitting in the surface of the grey mortar layer. The fact that several pieces have broken off exactly on the boundary of two layers implies that the bottom layer often must have been rather dry when the new mortar was applied. Some pieces show three layers of reddish mortar. This does not force us to change our idea about the system used. An explanation might be that when the work was interrupted a layer was smoothed off and was then later completed to the desired level.

The fragments have relatively smooth surfaces. Sometimes, however, ridges are to be seen especially on several black fragments. These ridges are caused by the wet brush used by the plasterer in finishing the stucco surface.

The first coat of paint has penetrated the stucco coating and adheres firmly to it. The top coat is partly flaked. All colours are very faded.

One piece has obviously been scratched intentionally, but no definite design can be detected. Moreover we note all kinds of damage, but it is difficult to say whether it arose before, during or after the destruction.

In only a few cases was it possible to fit two or more fragments together in their original combination, using the painted pattern. In the illustrations these pieces are drawn without fractures. The reverse side was almost no help in establishing the original position of the fragments. Thus analogous cases had to be used. Apart from Bogaers's reconstruction of the decoration of temple II at Elst, the fragments in question reminded us of the wall paintings from the villa at Cologne-Müngersdorf,[18] now in the Wallraf-Richartz Museum. Here, too, in the middle wall section broad panels alternate with strips on which candelabra have been painted. We are concerned with a decorative system which is also represented by Pompeian examples dating from Vespasian time.[19] It is found in the Roman provinces mainly in the last quarter of the first century A.D. and in the first half of the second century.[20] Dados to which some of our fragments can be related, as far as marble imitation is concerned, are found in Vespasian decorations in Pompeii;[21] in the Roman provinces we come across them in the same period as panels and candelabra.[22]

The most important pieces of this decorative system have been reproduced on pl. XIII:1–4 and XIIIA; pl. XIII:3–4 and XIIIA:1,5 represent the same fragments. The colours of pl. XIIIA are also used for the corresponding elements in pl. XIII. These pieces in particular prove that we are dealing with brownish-red panels, and we can deduce from analogous cases that the black portions adjoining this red, formed part of strips at the sides of these panels, and on top of them (fig. 4). The ornaments painted on the background in different shades of ochre, grey and white, are the remnants of candelabra. It would not have been so easy to establish had there not been more complete examples elsewhere. A study of these indicated that the fragments had to be given the direction in which they are illustrated on pl. XIII:1, 4 and XIIIA:1; it became clear that these fragments represented a left and a right upper corner of a panel. Green bands bordered by white lines separate the red and the black areas. Within the panels a yellow line runs parallel to the edges, as can be seen on the fragments on pl. XIII:4 and XIIIA:1. Two yellow ovals flanked by dots in the same colour decorate the longer remaining line on the fragment in question. The corner is marked at the outside by a stylized yellow flower, a big yellow button surrounded by a circle of dots representing the

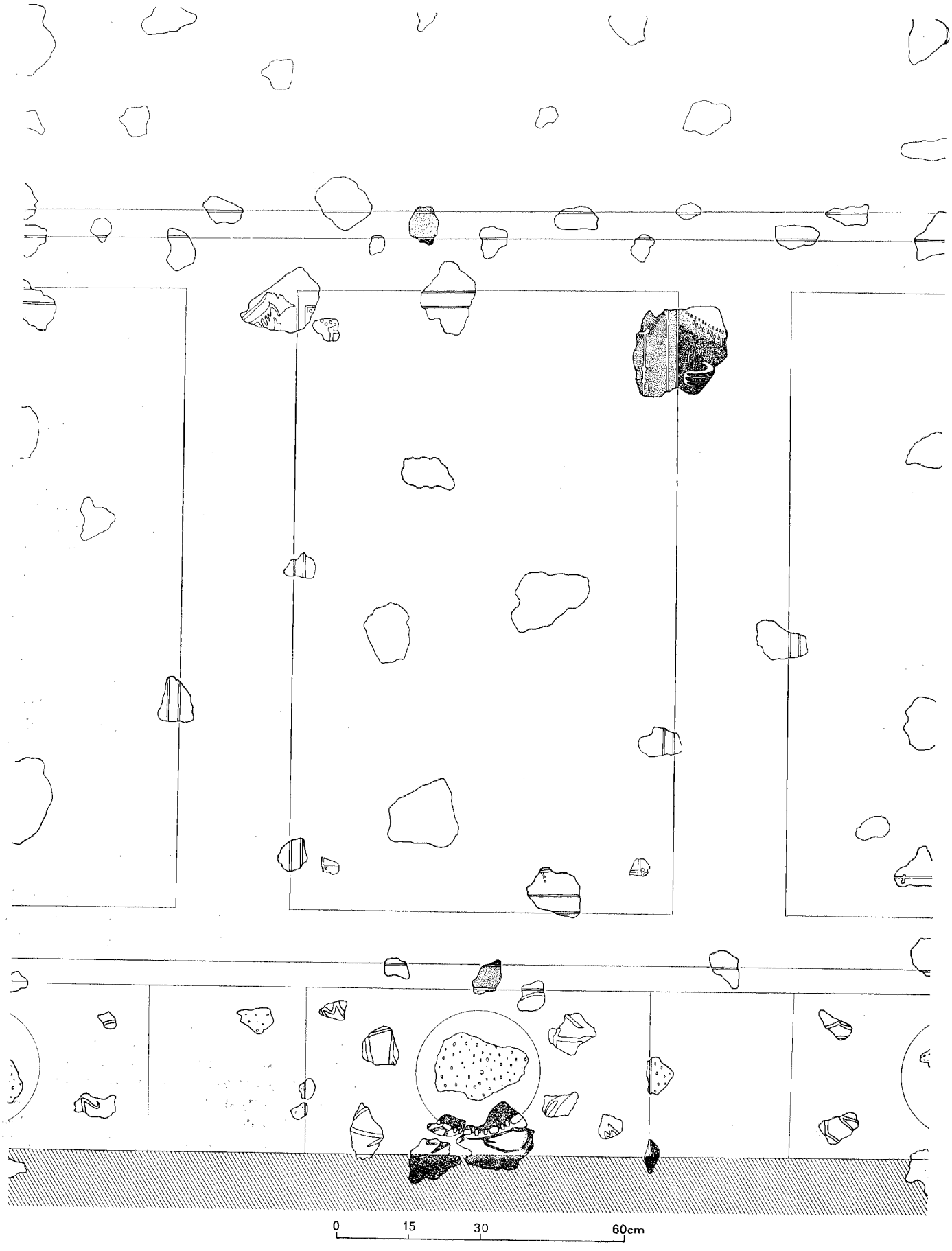
18 Klinkenberg 1933; Borda 1958, fig. on 92.

19 *E.g.*: House of the Vettii: Schefold 1962, 134, pl. 14: 2 (vestibule), 130–1 (rooms i and s); House VI, 9, 7: Spinazzola / Aurigemma 1953, I, 247, fig. 274.

20 Bogaers 1955, 132–4; Parlasca 1956, 27–8; Parlasca 1957, 101–2.

21 *E.g.*: House of the Vettii, Ixion room: Curtius 1929, fig. 16; House of the Vettii, cubiculum south of the vestibule: Schefold 1962, pl. 138; Casa dell'Ara Massima, tablinum: Schefold 1962, pl. 16: 1; Casa della Caccia Antica, tablinum: Schefold 1962, pl. 16: 2. See also: Schefold 1953–4, 122.

22 *E.g.*: Novaesium, castra: Koenen 1904, 177–8, fig. 8; for dating see also: Klinkenberg 1933, 59; Aquincum: Nagy 1926, 99–101, fig. 5–6; Cologne-Müngersdorf, villa: Klinkenberg 1933, 56, 59, pl. A, fig. 5; Oberweis, villa: Koethe 1934, 49, fig. 10; Trier-Olewig, villa: *Trierer Zeitschr.* 1956–8, 472, fig. 78; Augsburg: Parlasca 1956, 17–8; Cambodunum: Parlasca 1957, 99–102, fig. 18; Verulamium: Toynbee 1962, 194–5, pl. 201; Toynbee 1963, 217, pl. 52a; Cologne, south-east of Cathedral: Doppelfeld 1962–3, 162. See also: Blanchet 1913, 22–5; Liversidge 1958, 373–4.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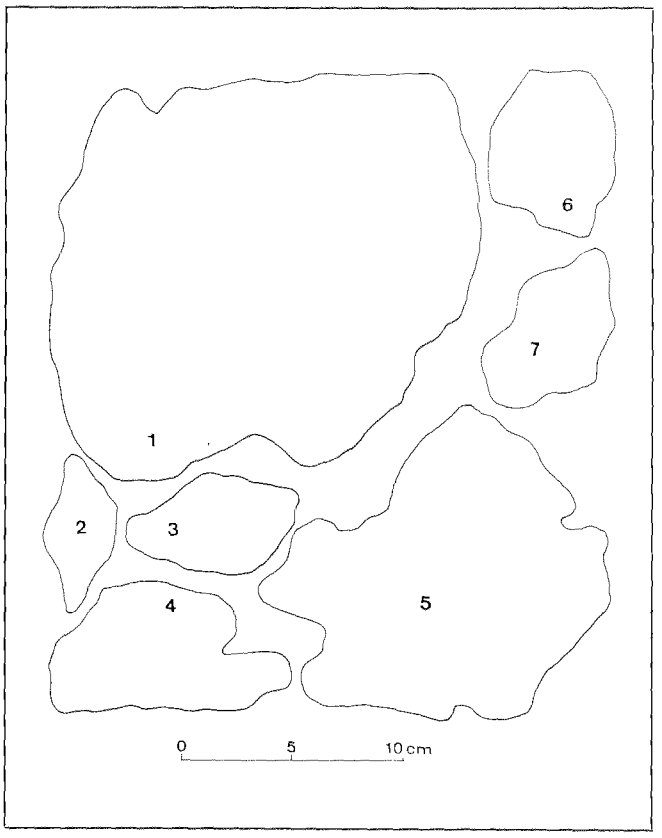


Ad pl. XIII A

petals. A row of dots in the same colour placed approximately along the bisector connects the flowers with the corner of the panel. On the fragment of pl. XIII : 1 only two of these dots have been preserved. Parts of a red panel, a green band and a black strip occur on many other fragments, and on several of these part of the yellow line superimposed on the red has been preserved. One of these pieces is very important as a result of pure accident, though the decorator must have been sorely grieved at the time; the yellow line had dripped (pl. XIII : 2). The direction of the drips makes it certain that this line must have been at the base of the panel and this proves that below, too, there was a green band and a black strip bordering the panels. The two big fragments (pl. XIII : 1,4 and XIII A : 1) contained evidence relevant to the top and the sides only; analogous cases could not help us, for panels sometimes stand directly on top of the dado[23] and sometimes they are separated from it by a border.[24]

◀ Fig. 4. Panel decoration. Reconstruction

Most of the imitation marble fragments show brown veining on a yellow background. Sometimes this background turns brownish-rose and here the veins become purplish (pl. XIII : 3 and XIII A : 3–5). Obviously the surface of which these pieces are part was supposed to represent *giallo antico.*[25] Some fragments show that this yellow marble was intersected by big round ornaments (pl. XIII : 3 and XIII A : 3, 5), intended to represent discs of green porphyry *(lapis Lacedaemonius)*, but the imitation fails badly: the green stipples on the almost black background are too small, their size being more appropriate for the design of red porphyry. The discs were surrounded by a white astragal, two roundish elements alternating with one elongated. Furthermore, it can be deduced from some pieces that the yellow marble was at least partially bordered by a black surface with a straight outline (pl. XIII:3, XIII A 4–5). On two fragments, part of the round ornament, of the yellow marble and of the black surface occur together in the sequence as enumerated (*e.g.* pl. XIII A : 5); on the fragment represented on pl. XIII A : 5 the distance between the edge of the ornament and the black area is 5 cm, in the other case 3.5 cm. Other pieces prove that at some places the yellow marble was divided by a straight white line from slabs of rose-stippled purplish marble, clearly meant to imitate red porphyry *(lapis porphirites).* On some pieces only the latter kind of marble is preserved. One fragment only contains the combination of a black area, yellow marble and red porphyry (pl. XIII A : 2).

The surface on which the black colour is applied is clearly ridged. With regard to the Elst fragments, Bogaers[26] observed that on the lower part of the wall the stucco was uneven and ridged. Consequently in our case we can ascribe the ridged fragments to the socle. There is a marked difference between this black surface and the smooth one of the black strips bordering the panels. Furthermore, the lower wall section was probably more damaged than the rest of the wall.

There is one fragment only which constitutes the link between the dado and the middle section of the wall (pl. XIII A : 7). It contains parts of the following elements: the yellow of the veined marble, unfortunately without the veins; a green band edged in white; a smooth black surface. Other pieces on which some of these elements occur enable us to com-

23 *E.g.*: Cambodunum: Parlasca 1957, pl. 33.

24 *E.g.*: Augsburg, Pettenkoferstrasse: Parlasca 1956, pl. 6.

25 For the different kinds of marble see: *EAA* IV, 860–70, *s.v.* marmo.

26 Bogaers 1955, 94–5, 99–104.

plete this part of the reconstruction; on one of them, veined marble is to be seen combined with part of the green border. We can deduce the following from the fragments described above: the dado had a green border on top and a black socle below; it consisted of yellow and purple marble slabs separated from each other by straight white lines. In one case, one such white line is perpendicular to the socle (pl. XIIIA:2). In the yellow marble round ornaments were placed at some distance from the socle.

In order to reconstruct the original arrangement of the slabs, we have to refer to analogous cases. In Pompeii, Neronian and Vespasian dados are generally subdivided according to the following principle: big horizontal rectangles below the panels of the middle wall section and small vertical rectangles, or squares, below the narrow areas separating the central zone panels. This division is used in marbled dados as well as in those not imitating a definite material. As a rule, the most important ornament is placed approximately in the centre of the horizontal rectangle. This ornament is often circle-shaped.[27] Our fragments fit in very well in a dado of this type, and the reconstruction as given on fig. 4 seems to be the most obvious solution: yellow horizontal rectangles with the black and green disc in their centres alternating with small vertical purplish rectangles which give the impression of a base for the column-like strips and the candelabra of the central zone. The distance between socle and disc was derived from the fragment used in the reconstruction (pl. XIIIA:5) and it was assumed that the circle was placed halfway up the yellow slab. We must record, however, that on another piece the distance was less (p. 121). It is probable that the system was not always strictly followed and it is very possible that the ornaments were placed only approximately in the centre. That more yellow fragments have come to light than purplish ones argues in favour of the arrangement proposed.

Unfortunately our dado finds no close parallels in Roman provincial painting. The marbled dados of the Müngersdorf villa[22] and also a reconstruction based on fragments found in Cambodunum[22] are related to ours as far as their general division is concerned, but they have no round ornaments. A room discovered in Périgueux[28] showing remnants of panels in the central wall section does have a dado with round ornaments and almost the same disposition but the dado is not marbled. Dados found in Oberweis and Neuss have round ornaments in the centre of a horizontal rectangle and they are marbled, but the central wall section has not been preserved and so we do not know whether panels had originally been present. Dados found in Laufenburg, Vidy and Augst (Kastelen-Kiesgrube)[29] are not marbled, neither do they show round ornaments but they have the same general division, and they are located below a panelled central zone.

We have no evidence for a decoration on the black strip between socle and central panels. But it is certain that the corresponding strip on top of these panels, at least in some cases, was ornamented. This is proved by the fragment in fig. 3:2 on which we see a stylized flower in yellow ochres and some brush-strokes which apparently once formed part of the top of a candelabrum (*cf.* pl. XIII:1,4 and XIIIA:1). On fragment fig. 3:6, the same flower occurs together with part of a green border which probably separated the middle and upper section of the wall. The same border is to be found on other pieces containing different flower motifs in the same shades of ochre (fig. 3:3). All these motifs probably constituted a decorative element on top of the panels, but their original sequence and arrangement cannot be established. Therefore, when making the reconstruction, the fragments on which they occur have been used, but the motifs have been disregarded.

There is only one piece which may constitute the link between the central and the upper zone of the wall (pl. XIIIA:6); it contains parts of the following elements: a black area, a green border between white lines, a red area. Thus, the upper zone could have been wholely or partially red. But there is no certainty on this point. No element came to light indicating how the wall just below the ceiling could have been finished off.

In establishing the reconstruction (fig. 4) only those fragments were used which pointed to the repetition of motifs in a certain scheme. They could not be used in their original sequence, but they could be given a site corresponding to their former arrangement. Obviously fragments originating from different walls have been brought together here to form a partial reconstruction of one wall. When many fragments contained the same evidence, not all of them were necessarily used. Fragments showing unassignable de-

27 *E.g.*: Casa della Caccia Antica, tablinum: Schefold 1962, pl. 16: 2; Casa della Parete Nera: Schefold 1962, pl. 116; Casa degli Amorini Dorati: Schefold 1962, pl. 124; Casa del Centenario: Schefold 1962, pl. 125.

28 Coupry 1961, 378–9, fig. 17–8.

29 Drack 1950, 18, 28, 90–1, pl. 14 (Laufenburg), 19, 30, 114–6, pl. 21–2 (Vidy), 18, 28, 44–5, fig. 158 on Beilage 2 (Augst, Kastelen-Kiesgrube); Vidy also to be found: Borda 1958, fig. on 102.

tails are sometimes used disregarding these details. Decorative elements of which the original context cannot be precisely established will be discussed later and are illustrated separately (fig. 5–6).

In the case of bands and borders it was possible to measure their breath exactly. The round ornaments could be reconstructed, and we know the approximate distance between them and the black socle. The width of the strips containing the candelabra can be calculated by approximation. Candelabra as a rule stand in the centre of the strip and though we have no example of a stem together with part of a collar its position can be inferred from the remnants of the collars alone.

The height of the dado could only be approximately established. As for the socle we had to work from the information gained from analogous cases. We arrived at a height of 51 cm for the socle and dado together, but it may have been more or even less. Bogaers[30] arrives at a total height of 'at least' 72 cm for socle and dado of temple II at Elst. In this connection Bogaers refers to Drack[30] who says that until the middle of the third century A.D., dados were low and rarely higher than 3 feet. In a construction made by Parlasca[31] with fragments found at Cambodunum, the height is 41 cm.

Among the material found, there is no direct evidence by which measurements of the panels can be given. So in this case, too, the general impression derived from analogous cases was the only possibility. When considering the upper zone of the wall, we find that comparative material in the Roman provinces is not available.

The surroundings from which the fragments come can have formed part of the decoration of a room, as well as of the peristyle walls. No Roman provincial peristyle paintings are known to me, but in Pompeii panel decoration occurs very frequently on the rear wall of peristyle porticos.

Panels and division strips as indicated in our reconstruction evolved from the imitation of *abaci* and *cunei*, broad and narrow marble slabs covering the wall. This decorative system came into use in Rome between 90 and 80 B.C.[32] *Abaci* and *cunei* always have a different colour; sometimes the slabs are plain, but imitation of stone is always intended, as appears from the rustication, the sunken joints which are indicated by lines in a light colour near the top and at one of the sides, dark lines at the opposite side and near the bottom, suggesting the direction from which the light comes.[33] Often *abaci* and *cunei* are bordered by a very narrow strip of marble in a different colour. So in the Casa dei Grifi on the Palatine Hill one finds an imitation of red marble slabs bordered by a green band;[34] the relationship with our Nijmegen fragments is quite obvious. In Augustan time already imitation of a particular material was no longer aimed at, and consequently the walls developed an indeterminate appearance.[35] Under Tiberius, Gaius and Claudius they often give the impression of imitating woven fabric rather than solid material.[36] In Nero's day[37] tightly stretched vela were fashionable in the middle wall section; they are still applied in Vespasian decoration.[38] But the imitation of a particular material was not the general rule at that time. In Nijmegen one did not get the impression of woven fabric, neither of marble imitation, although the straight outlines are reminiscent of slabs.

If woven material is represented, the lines suggesting rustication are replaced by borders derived from textile patterns.[39] If no special material is intended these lines lose their illusionistic function, are no longer painted in different colours and become merely decorative, as in our case. Here they remind us of cords decorated with balls, a motif frequently found in Roman mural decoration, applied in different ways. In temple II at Elst they occurred on dados. Bogaers,[40] when discussing his reconstruction, enumerates a number of such cords found in Italy as well as outside, ranging from the Augustan period to the third century A.D.

Dots along the corners' bisectors also were used in temple II at Elst. For this motif, too, Bogaers[41] collected comparative material; the examples quoted belong to Pompeian as well as to Roman provincial mural painting and range from the late-Republican period (Second Style) to the fourth century A.D.

30 Bogaers 1955, 126; Drack 1950, 7.
31 Parlasca 1957, 99–100, fig. 18.
32 Beyen 1938, 37–52, fig. 4–9; Borda 1958, pl. opp. 16.
33 See also: Schefold 1962, pl. 23.
34 Rizzo 1936, pl. A.
35 *E.g.*: Boscotrecase, Villa of Agrippa Postumus: Schefold 1962, 61, pl. 8, 40.
36 *E.g.*: Pompeii, House of Caecilius Iucundus: Schefold 1962, 68, pl. 45: 2.
37 *E.g.*: Pompeii, Casa della Caccia Antica, tablinum: Schefold 1962, 122, pl. 16: 2.
38 *E.g.*: Casa del Poeta Tragico: Schefold 1962, 108, pl. 12:2, 69.
39 Peters 1964.
40 Bogaers 1955, 127–8, pl. 21–3.
41 Bogaers 1955, 127, pl. 21, 23.

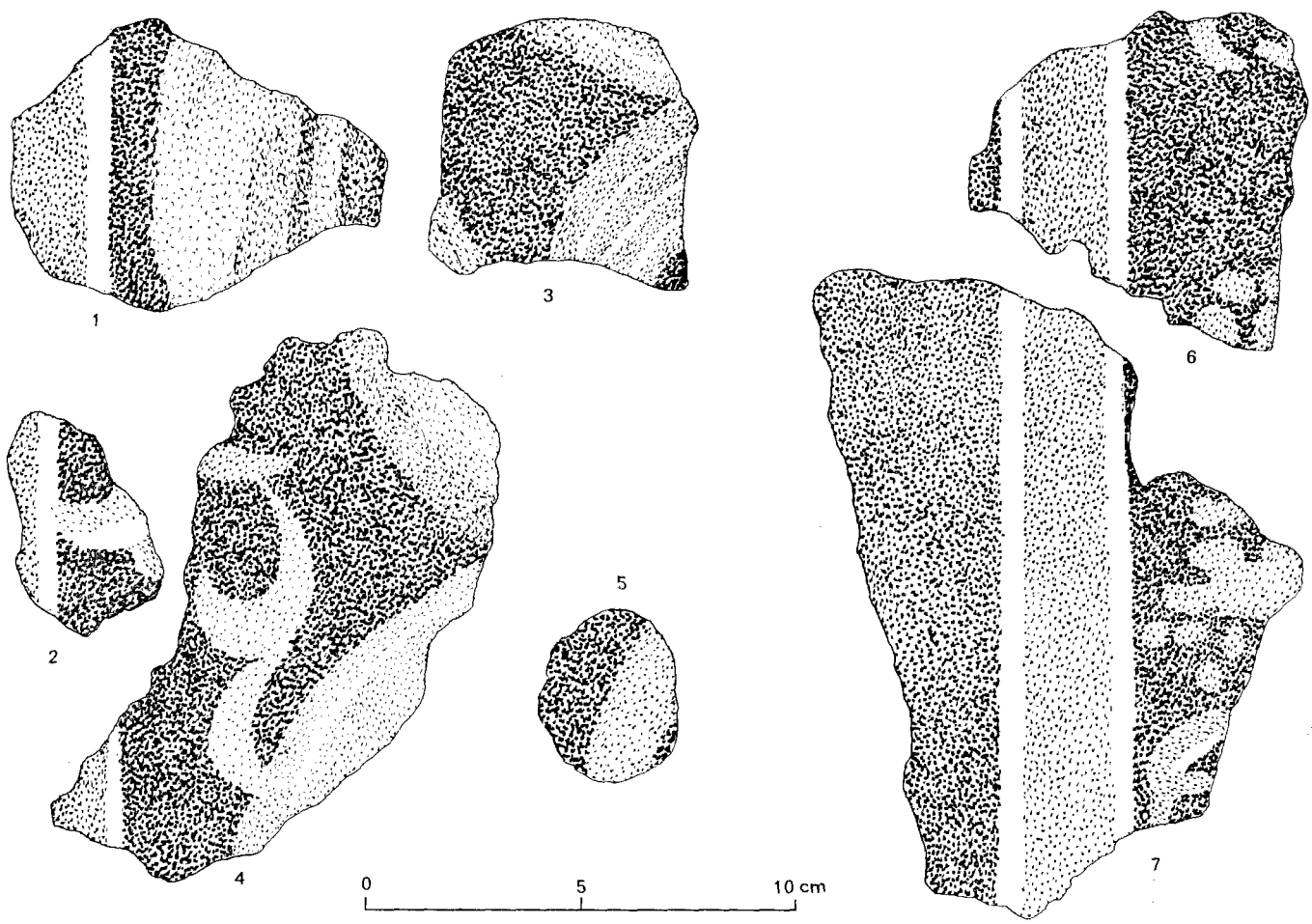


Fig. 5. Panel decoration, candelabra

Strangely enough the green bands bordering our panels are wider at the top and at the bottom than at the sides. I did not come across this phenomenon elsewhere. It might be intended as optical correction because the vertical bands always seem broader when viewed from the front.
Apparently the red panels had no decoration within the yellow lines. Ornaments on a red background do not occur between the fragments found hitherto. Neither is there any trace of the floating figures or the pictures which are usual in the centre of panels in Italy,[42] and which in the Roman provinces are occasionally present.[43] Other Nijmegen fragments have remnants of figure representations, but they cannot be linked with the red panels in question.
In fig. 5 all the pieces are shown which belong to candelabra and which are not represented on pl. XIII and XIIIA. But there was not enough material to attempt a reconstruction. Candelabra often have the most fanciful forms and therefore it was not possible to fill in the gaps and to relate the few fragments preserved to one another. Furthermore, candelabra of different shapes can occur in one and the same system.[44] Thus it is not certain that the fragments represented on pl. XIII and XIIIA and in fig. 5 are from the same type of candelabrum. Probably, in the Nijmegen case, the colours were restricted to shades of yellow ochre, grey and white. The candelabra, of which part is to be seen on pl. XIII:1, 4 and XIIIA:1 obviously showed a collar at the top between the upper corners of the red panels. Apparently one looked up at the underside of the collars. Pointed leaves of some kind hang down from the collars and it is from these leaves that we can establish the direction in which these fragments have to be put. No traces of the stems of these candelabra have been found. On pl. XIII:4 and XIIIA:1 we distinguish some white lines which perhaps indicate a *taenia* hanging down. Lower down part of another *taenia* is to be seen curving stiffly sideways; it may be part of a bow. We may assume that its mirror image was repeated on the other side of the stem. Candelabra are generally built up symmetrically. In any case, elements like these collars and *taeniae* can be completed with confidence. Part of a curving *taenia* is to be seen on the fragment in fig. 5:7 also; leaf and flower motifs have also been freely painted here. The original situation of this fragment cannot be established.
Fragments represented in fig. 5:3, 4–5 prove that in some cases candelabra had a double twisted stem.[45] The way in which the different shades of ochre have been applied, suggests the roundness of the stems. On the fragments fig. 5:2, 4 stylized leaves painted in shades of grey are partly preserved. Fragment fig. 5:1 shows part of a broad leaf hanging down, painted in shades of yellow ochre.
Candelabra constitute a favourite motif in Roman mural painting. Real candelabra were very important objects in Roman interiors. As early as the late-Republican period (80–60 B.C.) mural decoration acquired depth, real space is enlarged by optical illusion and painted candelabra begun to be incorporated in the decorative system. We see them standing free, as if they had their original function.[46] We also meet them transformed into elements which serve as supports: in early Augustan times, candelabrum-shaped slender columns are very common.[47] Later on in Augustan decoration, candelabra, now no longer having a supporting function, are used to decorate the narrow strips separating the rectangular fields in the middle wall section. They occur on the same spots where formerly columns were employed, whether candelabrum-like or not. The best example of the type of wall with which our Nijmegen system can be compared, is to be found in the House of Sulpicius Rufus in Pompeii.[48] During the decades following the Augustan era, the narrow strips between the rectangular fields are replaced by open areas, and here candelabra are frequently represented as if really present in the space behind the wall.[49] When under Vespasian, although prospects do not entirely disappear, walls become more closed, we sometimes meet candelabra applied in a way reminiscent of the Augustan manner, *i.e.* painted on strips between the central zone panels.[50] The way in which they are divided over a wall gives an impression not unlike that of the candelabrum-shaped columns supporting the middle section's upper cornice in early Augustan time.

42 *E.g.*: Schefold 1962, pl. 83, 86, 100.
43 *E.g.*: Forrer 1927 II, 429, pl. 54: 1, 60, 122. See also: Blanchet 1913, 34–7.
44 *E.g.*: Elst: Bogaers 1955, 101; Augsburg (Pettenkoferstrasse): Parlasca 1956, 12–3, pl. 6–8; Cambodunum: Parlasca 1957, 101, pl. 32–3.
45 *Cf.*: Bogaers 1955, 131–2.
46 *E.g.*: Boscoreale, villa of P. Fannius Synistor: Curtius 1929, fig. 58–9; Beyen 1938, 93, pl. 22, 22b; Schefold 1962, pl. 1. See also: Beyen 1960, 421–2.
47 *E.g.*: Villa della Farnesina: Beyen 1960, fig. 247, 250, 252, 255.
48 Beyen 1938, fig. 132a; Schefold 1962, pl. 46.
49 *E.g.*: House of the Vettii, atrium: Curtius 1929, pl. 82–3; Schefold 1962, pl. 72: 1–2.
50 *E.g.*: House of the Vettii, vestibule: Schefold 1962, pl. 14: 2.

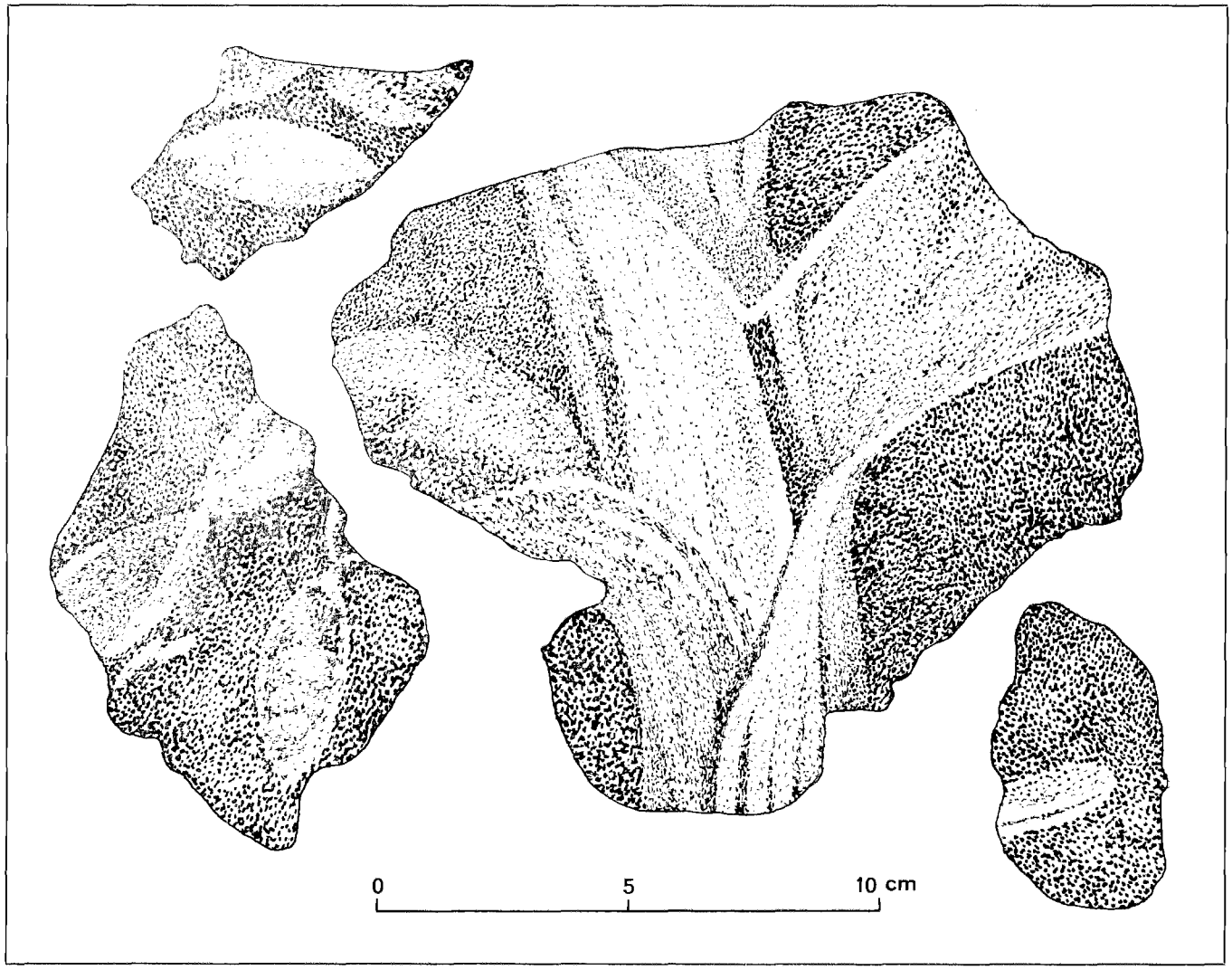


Fig. 6. Panel decoration, trees

The kind of system just mentioned, represented in Pompeii by a few examples, was favoured in Gallia and Germania, as was stated above (p. 117).

The following examples, published since 1955,[17] can be added to those enumerated by Bogaers. In 1955 in Cologne, in the neighbourhood of the Cathedral, a group of painted plaster fragments was found which, having been arranged, appear to belong to the same kind of system. Reconstructions based on groups of fragments found in Augsburg and Cambodunum and published by Parlasca, respectively in 1956 and 1957, also belong to this system. As was stated, this scheme was applied in Pompeii in the Flavian period, and its provincial representatives are mainly dated in the last quarter of the first century A.D. and the first half of the second. Panels as such have a much longer life. But they are not always treated in the same way: to the end of the second century and especially in the third they increasingly lose their definite outline. The two decorations to which the Nijmegen scheme is most akin, Elst and Cologne-Müngersdorf, are dated respectively to the early Flavian period and to the end of the first century A.D.[51]

The likeness between Elst, Müngersdorf and Nijmegen is not only restricted to the system followed in the middle wall section but it extends also to the candelabra themselves. In all three cases we note rather large collars, seen in perspective, and *taeniae*. The Müngersdorf examples, however, are far more elaborated than the Elst and the Nijmegen ones. On the other hand, twisted stems which occur on fragments from Elst and Nijmegen, were not represented in Müngersdorf. Candelabra with a straight stem are the rule in Roman mural painting, those with twisted stems the exception. Bogaers[52] quotes some examples of the latter category in the House of M. Lucretius Fronto and in the House of the Vettii in Pompeii.

In fig. 6, fragments are shown representing parts of one or more trees on a black background; they had been painted in a way reminiscent of the candelabra. This applies both to the colour scheme which has been completed by green only, and to the brush strokes. It cannot be said with certainty how such trees had been incorporated in the whole. In the reconstruction proposed, they cannot be fitted in. Perhaps they come from spots corresponding to those where the candelabra have been placed in our reconstruction. The black strips, however, on which trees could have been represented must have been broader. In Pompeii in Neronian and Vespasian decorations, we often see trees depicted in prospects alternating with panels;[53] in these cases, however, they have been given a white background suggesting the sky. Trees on black are known from Pompeian garden representations, but not as elements belonging to a system mainly composed of panels. Comparative material is not to be found among provincial Roman mural paintings so far published.

On several fragments with a black background very faint traces of human figures, partly draped, partly nude are to be seen, sometimes combined with green foliage. They have not been reproduced because in a photograph almost nothing comes out. As far as the plaster is concerned, they can very well belong to the system in question. It is obvious that we are concerned with remnants of a scene with figures but it is not clear how such a picture had been incorporated in the system in question. One may think of a spot corresponding to that of the candelabra, as in the case of the trees, but another possibility is that black fields with a mythological scene alternated with the red panels on some wall or other. Nothing, however, came to light which could point to elements framing such black fields. From the belly and the thighs of a naked boy, which can be distinguished with much difficulty, can be deduced that this figure measured about 25 cm. The flesh seems to have been rendered very skilfully in natural colours. Nothing else can be stated about the figures.

The motifs represented in fig. 3 were situated in the black strip on top of the red panels. Decorations in corresponding situations are found in Pompeii from late Republican times onwards[54] and they occur in Roman provincial decorations also. We find them on the Cologne-Müngersdorf walls, on the fragments discovered recently near Cologne Cathedral and in Augsburg (Thommstrasse).[55] The subjects vary in different cases. The simple type occurring on our fragments can best be compared with the Augsburg example.

Dados imitating marble are found in the last half century of the Republic.[56] Our kind of dado, however, does not directly link up with them. It is closely related to a Flavian

51 Bogaers 1955, 134; Klinkenberg 1933, 59.

52 Bogaers 1955, 131–2; House of M. Lucretius Fronto to be found also: Borda 198, fig. on 59; Schefold 1962, pl. 48; House of the Vettii to be found also: Schefold 1962, pl. 72: 2.

53 *E.g.*: House of the Vettii, room t: Schefold 1962, pl. 127.

54 *E.g.*: Casa del Labirinto: Beyen 1938, 262–4, fig. 96–7.

55 Cologne-Müngersdorf: Klinkenberg 1933, 55, pl. A, fig. 5; Cologne: Doppelfeld 1962–3, pl. 30; Augsburg, Thommstrasse: Parlasca 1956, 19–20, pl. 1, 11.

56 *E.g.*: Wall from Soluntum, now in Palermo, Museum: Beyen 1938, 45, fig. 6a.

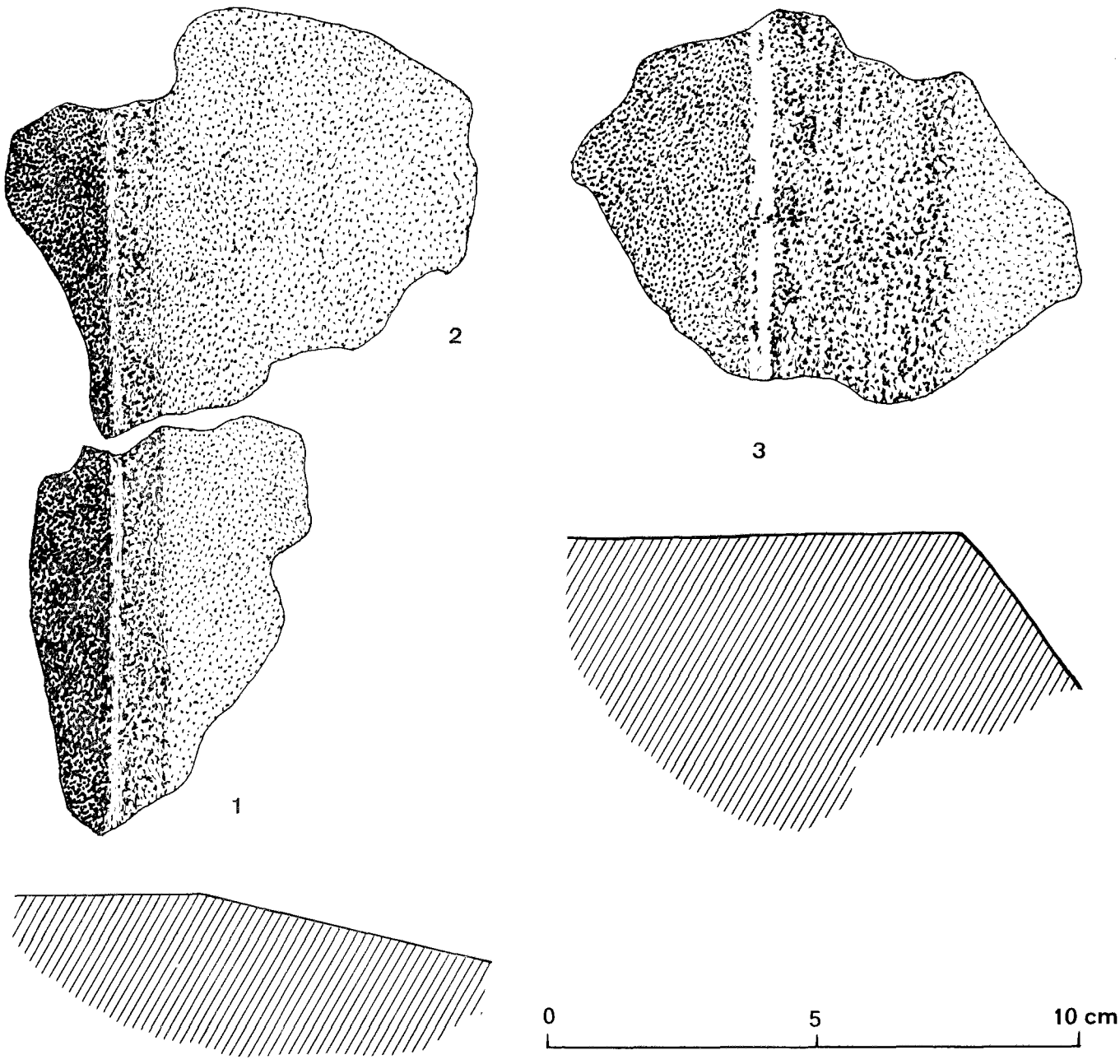


Fig. 7. Panel decoration, corners

type. During Vespasian's reign the dados not representing a definite material, which had come into being in Augustan times, were stille in use, but dados imitating marble incrustation became more and more fashionable.[57] Just like panels and candelabra, these marbled dados were taken over by the provinces. After the second half of the second century A.D. there are fewer attempts to give a close imitation of special kinds of marble, and patterns get more and more fantastic both in Italy[58] and in the Roman provinces.[59]
The astragal is not bound to a narrowly limited period. We find it for example in a 'First Style' decoration in Glanum[60] and on a fragment from Vindonissa[61] which is more than one century later.

Several fragments clearly belonging to the system in question come from corners and show part of the wall-surface together with a part of the side of a door, window, or niche. The piece shown in fig. 7:3 is very representative. The following elements are to be noted on it, from left to right: pieces of a red panel, a white line, a green band, the corner and then part of a yellow-ochre surface. This ochre may come from the receding side, the other elements clearly point to our panel decoration.
Less easy to explain are the pieces fig. 7:1-2. We note black divided from green by a white line. A narrow strip of green is applied on the side where the black is to be seen; the other side is completely green. If here, too, we are concerned with the side of a door, window, or niche, this must have had a second corner, the preserved one being very obtuse. In that case, the black seems to have belonged to the strips bordering the panels, the green remaining for the receding side. Another possibility could be that the room where the fragments came from had an irregular shape. For such an assumption, however, no evidence is to be found in the foundations exposed.

The method of painting is as follows: the large surfaces have been laid on the wall directly, borders, bands and other decorative elements have been painted over it. Sometimes borders, bands and lines, cover parts of two differently coloured surfaces at the same time. Straight sides have been drawn with the aid of cords or rulers and sometimes the impression of preliminary drawings made with a wooden stick or an inverted brush can be observed. From these traces we may deduce that the stucco was not quite dry when the paint was applied.
In contradistinction to the precise way in which bands and lines are drawn, the other ornaments are painted more freely. They have been applied with a soft brush in rather thin paint. Whilst the figures, as far as can be judged from the few remnants, have been painted with some skill, the decorative patterns are poorly executed. The candelabra especially betray a certain carelessness. It is probable that more than one artist was concerned. Extensive works of this kind were not generally the exclusive work of one decorator. This holds good for Pompeii, and can be expected also in the provinces.

Comparison of our system and its details with similar cases elsewhere produced no data to limit the dating. Systems and motifs generally have a long life and therefore this is not surprising. Neither can a more precise dating be derived from a study of change in treatment. Remnants of Roman provincial mural painting are too scarce for us to expect much success from this method.
A comparison, however, in this respect between the Nijmegen and the Elst fragments may be made. As far as the whole system is concerned, almost no difference in treatment is to be noted. If, however, one compares the candelabra, the most conspicuous decorative elements, a great difference in execution is obvious. Whereas in Elst the candelabra are treated boldly and carefully at the same time, with due attention to detail, the Nijmegen candelabra are painted freely with little attention paid to their architectural appearance. In Elst we get the impression that candelabra are deliberately represented so that they could be recognized easily as such. In Nijmegen, on the contrary, the same elements seem to be too well-known and hackneyed. They have become part of the design and are no more interesting in themselves. In this respect it would seem that the Nijmegen decoration was of later date than the Elst paintings.
Although I remain well aware that data obtained in this way have to be used with great caution, I would point out that this phenomenon fits in very well with the supposition that the period of the stone foundations in the Nijmegen castra started between 85 and 90 A.D. Our paintings could have been applied immediately after the buildings had been erected.

57 Schefold 1953–4, 122.
58 *E.g.*: Wirth 1934, 89, pl. 19; Borda 1958, pl. on 135, 140–1.
59 *E.g.*: Nagy 1926, 99–100, fig. 5–6; Toynbee 1962, 194–5, pl. 201; Toynbee 1964, 217, pl. 52a.
60 Rolland 1958, 110, fig. 10.
61 Drack 1950, 125–6, fig. 137.

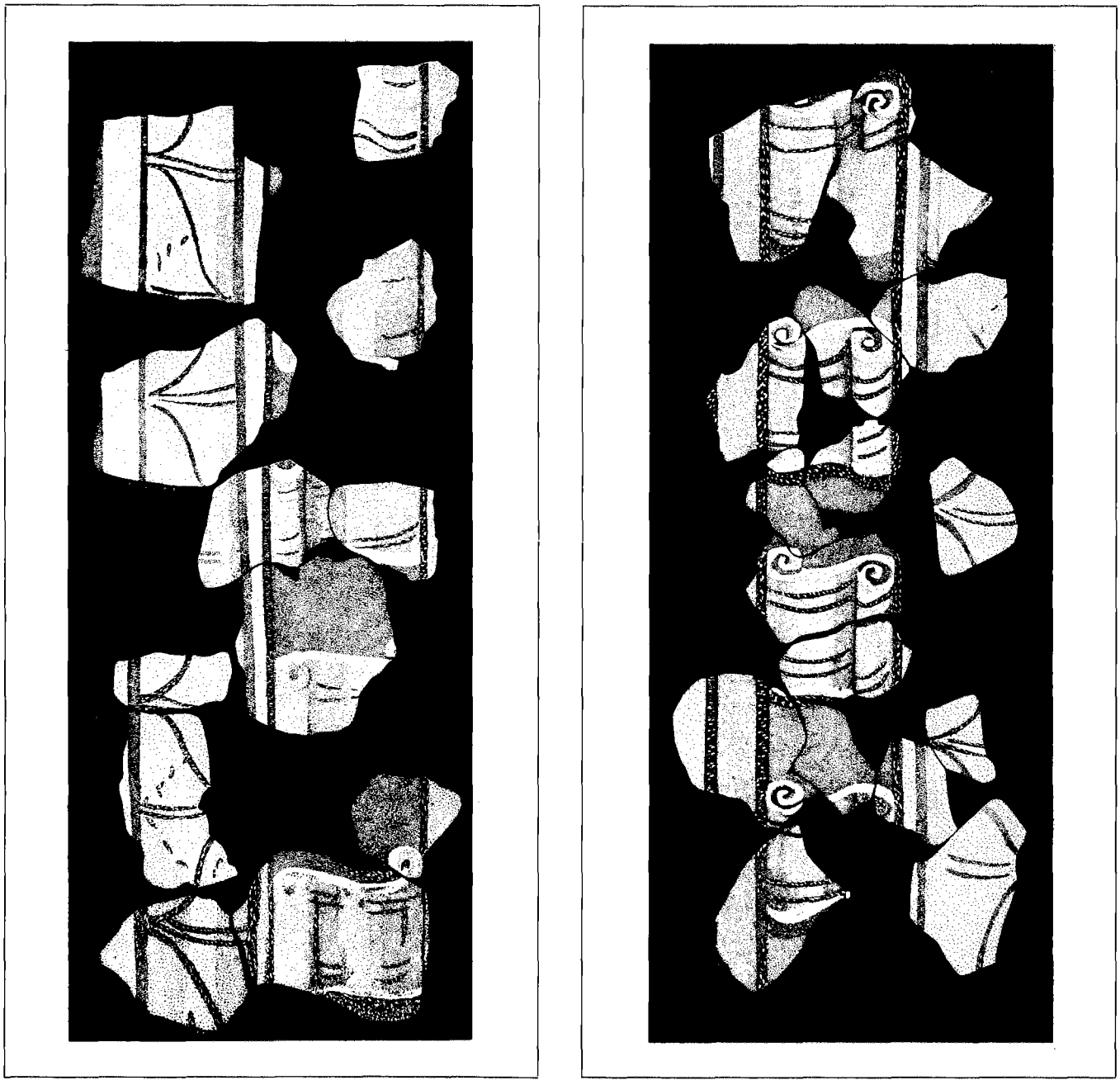


Fig. 8. Garden decoration, frames

Garden Vistas

More than 800 fragments originate from walls on which garden prospects were represented in an architectonic frame. These pieces together occupy an area of about 3 m^2; thus here, too, we have at our disposal only a small part of the original painted surface.

The painting had been applied as usual on plaster composed of several layers. Most of the fragments have been broken off within one of these layers or between two of them. In a few pieces only the plaster has been preserved in its full thickness so that we can see the original reverse of the undermost layer. In some cases on the reverse a wood impression is to be seen (pl. XIV:7–10). Generally, however, the surface is almost smooth, or if an irregularity is present, no impressions of any material or structure can be observed. The wood impressions are partly from poles, partly from thin laths. One is reminded of half-timbered walls. The laths can have belonged to wicker-work filling the frame. In the group of fragments showing a floral pattern (p. 136–7) the same kind of wood impressions occurs frequently so that we can establish the type of wall. The garden fragments and the flower motif fragments are related also in other respects (p. 138–9), so that a comparison of their reverse surfaces seems to be admissible.

Several wood impressions occur in a lime layer which is only a few millimetres thick (pl. XIV:9). The same kind of lime layer is to be found here and there between two layers of mortar. Further the plaster technique was very similar to the one on the walls with the panel decoration (p. 117–9). The walls with the garden prospects also had two rather thick layers of reddish mortar and a thinner grey one with a thin final coating. The wood was sometimes covered by only a single layer of reddish mortar. The ingredients of the different layers, too, appeared to be the same, but large pieces of tiles are not found. In the garden fragments which are preserved, the first reddish layer has an average thickness of 21 (± 11) mm, the second reddish layer of 36 (± 6) mm, the grey layer of 5 (± 2) mm. Here, too, the final coat is hardly measurable and mostly it only fills the rough surface of the underlying mortar.

On most fragments the surface is more or less ridged; probably the uppermost layer has been finished by wet brush strokes.

The undermost coat of paint penetrates into the stucco surface. The surface itself has sometimes been preserved very well, sometimes the stucco has been damaged and the paint is blistered and faded. One fragment shows a row of parallel scratches, caused intentionally; the other damage was probably caused by accident.

Fig. 8 gives a reconstruction of parts of the frames through which the garden vistas were to be seen. The fact that the stucco layer of several fragments slopes upwards indicates that they come from the corners; the ridges in the surface run parallel to the corner-side. Unfortunately none of the fragments contains all the elements of the frame and part of the garden at the same time. The scarcity of the material forced me to combine fragments from several left and right corners. The reconstruction has been effected by arranging the fragments in the following way: drawings of each fragment were made and afterwards the designs were cut out; these were then put together and in some cases superimposed on one another. Because the decorator handled the patterns freely, the designs had to be schematized slightly in order to fit one another. No lines were supplied. The left reconstruction turned out to be different from the right one, because not all the fragments repeating the same decorative element were of the same size. We must imagine that in the original surroundings two frames on one and the same wall were almost each other's mirror image. Thus starting from the centre we get the following sequence on either side: a green band between two black lines, a dark brown border decorated with ochre banderoles, white columns plastically rendered against a white border, a brown band and finally a narrow band of white.

It has already been remarked that the fragments must originate from more than two corners. Probably they originally belonged to the decoration of a peristyle or a room in which the four walls contained garden vistas between frames as shown in fig. 8.

It is curious that the banderoles at the right cast a shadow on the background, whereas the left ones do not. The shadows on the fragments used at the right provided a starting-point in establishing the direction from which the reconstruction had to be viewed. Theoretically, the designs can be turned upside down. However, in Roman mural decoration the light is supposed to come from a high point as a rule, and so probably our banderoles cast their shadows downwards, and thus they were given as seen from above. No fragments have been found showing banderoles on eye-level. Therefore it does not seem probable that part of the fragments has to be placed in such way that one looks up at them. The most likely explanation is that all banderoles were applied as ornaments having the same perspective and that they were not treated in a consequently-illusionistic way. The columns sometimes give the impression that their horizontal lines are almost on eye-level, but there is insufficient evidence to establish whether columns were painted to suggest that one looked up to the top.

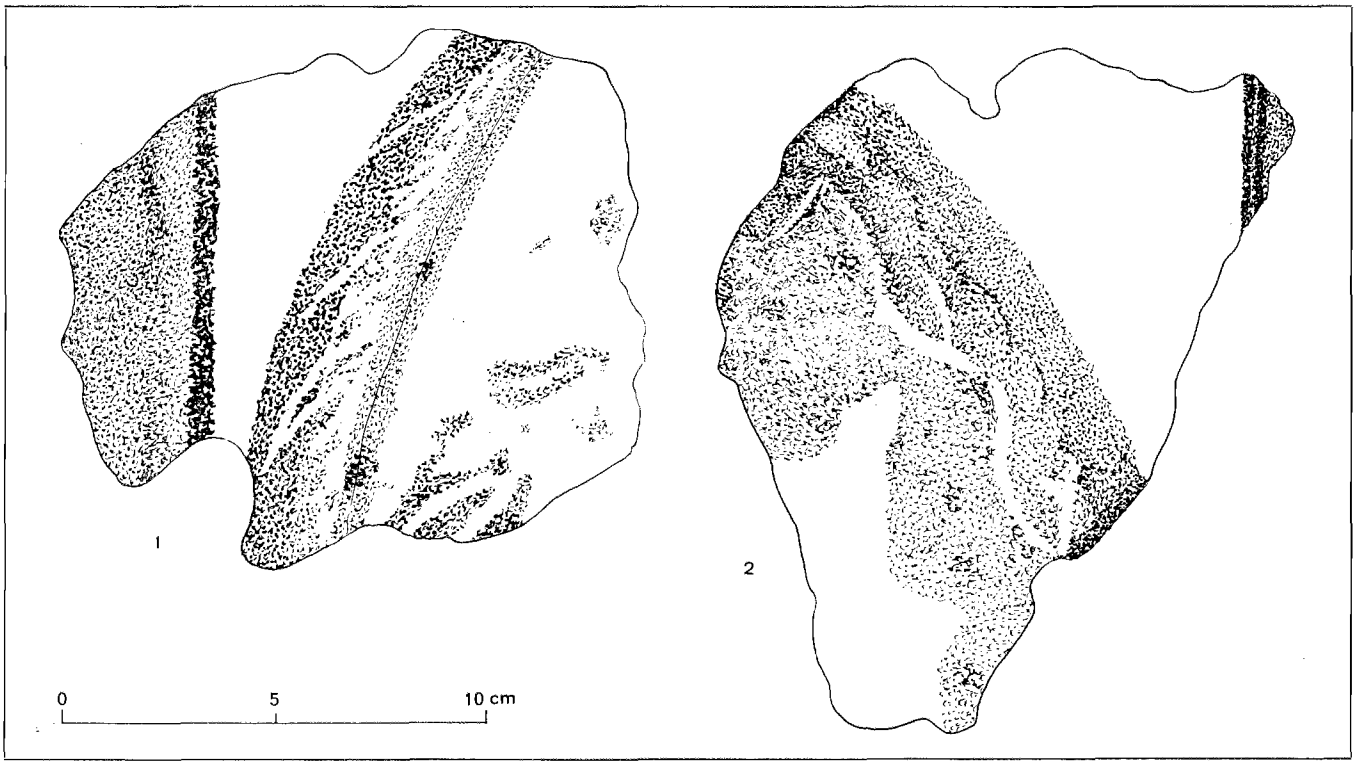


Fig. 9. Garden

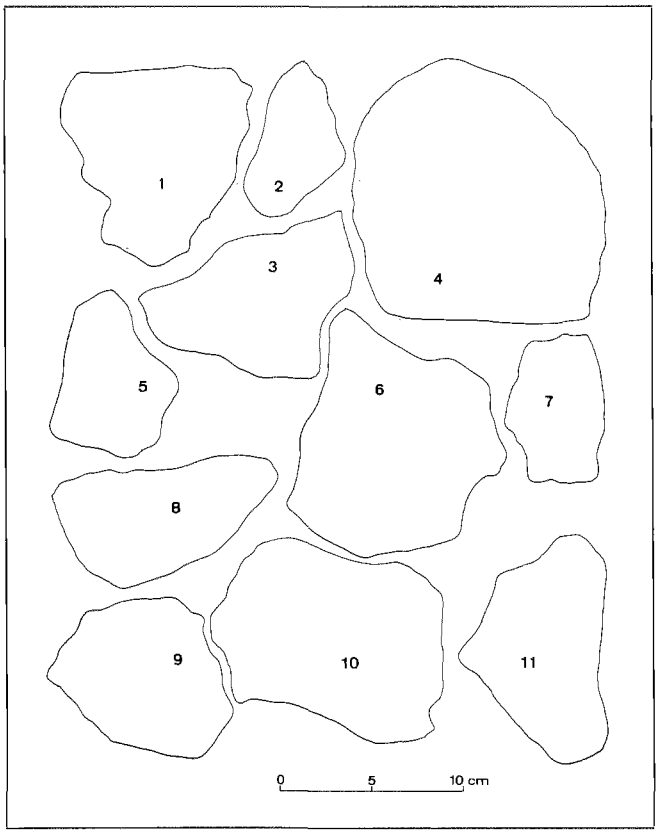
Possibly the banderoles were applied less often than our reconstruction indicates. On one fragment parts of two consecutive banderoles are preserved, and so we know the distance between them. This, however, does not imply that the distance was the same in all cases. Theoretically, it is possible that the banderoles were used placed in pairs, but no large enough part of the brown background remains to prove such an assumption. Furthermore, one has to consider that a relatively large number of fragments came to light containing parts of banderoles.

The banderoles (pl. XV:2–3; XVA:10) seem to consist of a thin, undefined material. They are decorated with two pairs of black lines drawn in each case at some distance from the upper and lower edges; obviously the decorators did not intend them to run parallel to the borders of the banderoles. Just like the other irregularities this must have given a great deal of liveliness to the whole decoration. Light and shadow have been suggested by bold strokes, with the result that at some distance one gets the impression of a strong plastic effect. In each case, light shades have been applied over the darker ones, with a rather thick, opaque paint. The illusionistic effect is strongly enhanced by light lines bordering the banderoles above and below. At the top this line may indicate the section of the banderoles, below it cannot be explained as suggesting an aspect of reality.

The light falling on the columns (pl. XV:1; XVA:9) has been represented as coming from the same source as for the banderoles. Shadows are shown in very light shades of green and purplish brown.

The decoration is done in delicate lines. It consists of double rings, reminiscent of the column's segments, and of undulating lines running obliquely between the rings, giving a suggestion of cords twisted round the shaft. Here and there dotted lines connect the rings with the middle of the undulating lines; their origin is not clear. There is a strong contrast between the heavy area with the banderoles and the lightly painted columns. The flat green band bordering the garden is not incorporated in the plastic representation of the other elements.

There is some difference in the quality of the various frag-



Ad pl. XV A

ments of the frames; most of them show a bold and skilful hand, in some cases, however, the execution is clumsy and it gives a cramped impression. This can be due to the difficulties met with when working in a corner. Among the fragments representing the garden itself, no such clumsiness is found.

No base or capital of any column has come to light. We do not know how the banderole sections began or ended. No part of dado or socle has been found. However, there must have been a socle, albeit a very low one. Obviously we have only pieces originating from the central and upper wall sections. We are also ignorant about the way in which the wall was finished off at the top.

Two fragments only show part of the frame together with leaves belonging to the garden (fig. 9). These leaves stand out against a white background suggesting the sky, and we may fairly assume that these fragments come from the higher part of the wall. We may assume this to be the case also in the original position of fragments on which leaves and air are seen without a framing element (pl. XV, XV A). Pieces showing green only, can be supposed to come from the lower wall section, where a mass of shrubbery can be expected. The exact original position, however, can be given to none of the fragments. Evidence is insufficient to enable one to arrive at a justified reconstruction of the garden section. We can only arrive at a general conception of what this decoration originally looked.

On several fragments we see pomegranates with their foliage (pl. XV: 8; XV A: 11); in each case the surface is entirely covered by fruits and leaves; pomegranates are nowhere silhouetted against the sky. Different shades of orange indicate light and shadow on the fruits. The plumes are indicated by an asterisk in black. The foliage in shades of green stands out against a dark grey, originally probably almost black, background, which suggests shadows in the shrubs or trees. The leaves have been treated with skilful boldness: sometimes the central rib and part of the outline are emphasized by broad, almost white lines (XV A: 11).

Apart form the pomegranates trees or shrubs with large long leaves having an undulating or crenated outline occurred (pl. XV: 4–6, 11; XV A: 1–3, 6). We have fragments entirely filled with this kind of leaf, but on some pieces we also see them standing out against the sky. Instead of green, one sometimes meets shades of ochre and brown. In the closed parts here, too, the leaves are painted on a dark background suggesting shadow; sometimes the upper leaves are blackish and silhouetted against the sky (pl. XV A: 3). Shades of green, ochre and brown have been used in the same tree or shrub and sometimes in the same leaf. Ribs and outlines are partly emphasized by bold white strokes (pl. XV A: 1, 6); occasionally leaves in brown are found (pl. XV A: 2). On two fragments there are traces of blue, but otherwise this colour does not occur. On some fragments part of the stem of a palm-tree can be determined (pl. XV A: 5, 8); shades of ochre, white and some green suggest the roughness of the surface. Unfortunately no leaves of this tree occur on our fragments. Furthermore, on a number of fragments parts of thin, straight, brown branches stand out against the sky.

A very interesting piece is that on which we see part of a yellow stalk and barely distinguishable traces of a light rose-coloured flower, whose shape cannot be established, standing out against the sky. The yellow stalk is enclosed by two white lines, whiter than the background. This stem occurs on other fragments in the same way (*e.g.* pl. XIV: 3), or against the foliage. On two fragments, flowers in green and brown are silhouetted against the white (pl. XV: 7, XV A: 4). The spear-like leaf suggests irises rather than lilies.

The fragment on pl. XV: 7 and XV A: 4 is also remarkable

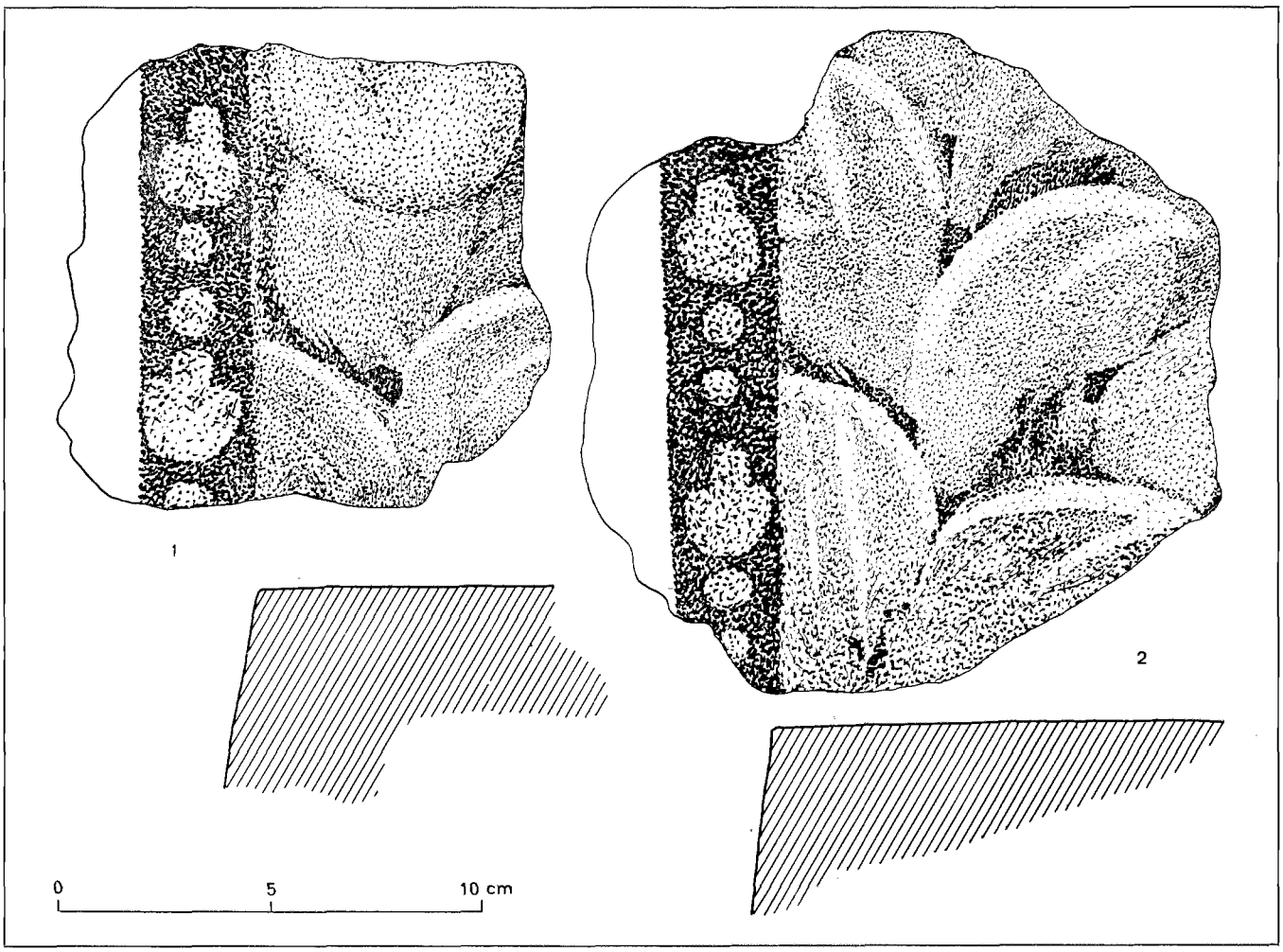


Fig. 10. Garden decoration, corners

because of the leg of a big bird occurring on it. The position of this animal, however, is not clear; the leg appears to float in the air. Among the fragments not reproduced, there are several pieces on which small parts of big birds are to be seen, always silhouetted against the white background.
The putti sitting here and there in trees and shrubs are very small in comparison to the birds. Parts of a body including an outstretched left arm with a spear or rod can be seen on the best preserved fragment (pl. XIV:4). In other cases, we see only part of the hair or the vague traces of a body (pl. XIV:3).
Some partly preserved heads or masks are big in comparison to the putti, though small in comparison to the birds (pl. XIV:1–2, 5–6).
Unfortunately the paint of these extraordinary pieces is very faded and plartly flaked off. Nevertheless, one sees how effectively the painter has suggested the forms in bold but careful strokes. The broad round faces give a youthful and, at the same time, sad impression; they seem to represent boys with rather feminine features. The background is white or green. On fragment pl. XIV:2 a leaf can be determined as belonging to our pomegranates. Parts of bodies are nowhere to be seen. We are probably concerned with boys thrusting their heads through the foliage, unless the faces are intended to represent masks.
Quite a number of fragments show straight or curved lines, penetrating into the stucco and obviously drawn when this was still soft (fig. 9:1). Sometimes the painting follows the curved lines exactly, sometimes only approximately. We are concerned with preliminary guiding lines which indicated the outline of certain important parts. Straight lines could have served as an aid in transferring a pattern from a cartoon to the wall. After having drawn their sketch in this way, the decorators painted first the dark background and proceeded to lay light shades over the darker ones. Everywhere the bold touch is conspicuous, always in accordance with the effect aimed at; some parts are worked out completely, others done with a few strokes. Although it is possible that more than one artist was at work here, differences are not obvious.
A few garden fragments originate from corners as can be deduced from the structure of the stucco (fig. 10). It does not seem likely that their original position was in the corners of the room itself, where we assumed the columns to have been depicted. It is quite possible that the fragments in question come from niches. Roman painters sometimes adapted their designs to irregularities in real architecture, but generally they continued their patterns uninterrupted as far as possible.
Some fragments with obtuse salient angles of 164° are difficult to fit in. On both surfaces we see part of the garden motif. If these fragments represent the side of a niche we have then to assume that there was a second corner (*cf.* p. 129).
Fragments which are partly illustrated in fig. 10 certainly originate from the side of a door, window or niche. One side (the original wall surface) shows the garden, the other side shows a black band decorated with a pattern of stylized yellow flowers alternating with pairs of dots. This band is followed by a white surface which, in some cases, has a green leaf-motif.

The oldest garden representation in Roman mural painting known to us is to be found in Pompeii, in the Casa del Menandro in the rectangular exedra in the south-western corner of the peristyle.[62] Here through a pergola of rather thick columns we look out on very suggestively painted pine-trees in which birds are singing. This painting can be dated between 40 and 25 B.C. The most well-known garden vistas, those from the villa of Livia at Prima Porta, now to be seen in the Museo Nazionale at Rome, date from the early Augustan period.[63] Here the entire room is surrounded by garden prospects, so that one gets the impression of being in the open air. There are no columns or other framing elements. The quality of the execution is unsurpassed in Roman garden painting.
In Pompeii one can find a great number of garden representations both from the Augustan and the later period. The garden motif is employed indoors, but the Pompeians preferred to use it in peristyles and *viridaria*. The latter category has suffered particularly badly and it may be due to this circumstance that hitherto scanty attention has been paid to garden representations and that so little has been published.[64] Very beautiful gardens are to be found in two *cubicula* in the house I, 9,5 named 'Casa del Frutteto' after one of these paintings, or 'Casa dei Cubicoli Floreali' after

62 Maiuri 1932, 96–8, fig. 47, pl. 11; Beyen 1960, 162, fig. 69–70, pl. 2; Peters 1963, 25, fig. 10.
63 Schefold 1952, 36, 77, 197, fig. 11; Beyen 1960, 21, fig. 264; Gabriel 1955; Borda 1958, 67, 213–4 (with a different dating), pl. opp. 64, fig. on 212.
64 Maiuri 1952, 5–6 (with references to the older literature); Maiuri 1953, 125–32; Borda 1958, 68–70, 213–4; *EAA* III, 882–7, *s.v.* giardino.
65 Maiuri 1952; Maiuri 1953, 129–30, fig. on 124.

both of them.[65] Generally the outdoor garden representations which cover large surfaces are less carefully treated. Sometimes we see the gardens through slender columns, sometimes we see them as vistas alternating with areas containing another kind of representation. Nowhere did we find a sequence of framing elements which can be compared with the Nijmegen case.

The material is scarce in the Roman provinces and little has been published. Forrer[66] published some fragments of a painted garden found in Strasburg. Tile stamps found together with the fragments give a dating to about 100 A.D. To a certain extent the reconstruction given by Forrer is to be compared with the conception we have made of the Nijmegen garden. From the Strasburg fragments, however, we get the impression that the garden there was much more open than the Nijmegen one, and that considerably more sky showed through the trees. In Forrer's reconstruction a striking resemblance is to be found to the Nijmegen garden: a bird which is big in relation to the tree and whose position on the branch is not quite clear. A big difference, however, is shown in the treatment of the foliage. In Strasburg we are reminded of the manner in which trees are depicted in mythological scenes and sacral landscapes in Rome and Campania.[67] In this respect the Nijmegen fragments closely resemble the 'garden room' from Prima Porta and the Pompeian garden representations.

As far as foliage treatment is concerned, fragments found in Virunum,[68] are certainly related to our pieces. In Virunum, however, there was no garden picture covering a whole wall, but garden vistas alternating with panels. A feature in common with the Nijmegen fragments are the heads between the foliage. In Virunum these heads are clearly intended as masks. Hedwig Kenner[69] dates these fragments to the second half of the second century A.D. She supposes that in the course of the third century shrubs were replaced by flowers and leaves loosely scattered over the walls.[70] Henriette Brandenstein[71] points to the same evolution when discussing the Carnuntum mural painting. The well-known wall from the House of Attalos at Pergamon[72] is a good specimen of the transitional stage; this decoration is dated to the Severan period.

I found no comparative material for the decoration of the columns in Italy. A very close parallel, however, is known from a house at Gorhambury, outside Verulamium, dating from the second century A.D.[73] On the Gorhambury column the decoration is executed in broad lines and rendered very impressionistically.

The green band between black lines is very frequent in Roman mural painting, especially in the so-called Fourth Style. In our banderoles, however, we seem to have a unique specimen. I found no trace of them anywhere even in Italy, nor among the provincial Roman material so far published.

To conclude, gardens like ours occur since the late-Republican period. However, the illogical combination of spacial and flat elements that we noted in the frame, is only possible since Nero. The style and execution of the whole are certainly closer to the first-century B.C. treatment of such a subject than to the third-century A.D. manner. Our knowledge about the evolution of garden representation in Italy is so inadequate and so little has been published about provincial examples that it is not possible to give a more exact dating.

A Floral Pattern

Quite a large group of fragments is characterized by a floral pattern on a white background, sometimes in combination with other decorative elements. Here it concerns 2000-odd pieces, covering together about 10 m².

As far as the plaster is concerned, roughly two-thirds of the pieces show a familiar constitution: two layers of reddish mortar, one of grey mortar and a thin white final coating (see p. 117–9). Here, too, sometimes between two mortar layers a thin layer of lime is found. On the reverse of these pieces no marks are to be seen which can tell us anything about the original wall. The remaining one-third, however, mostly with only one reddish mortar layer, a grey layer, a final coating and sometimes a thin lime layer between two of the other layers, is quite remarkable and interesting: the reverse shows very clear impressions of poles and laths (pl. XVI). Often we have three sides of a lath (*e.g.* pl. XVI:4) and once even four sides (pl. XVI:3). Sometimes the lath impressions are almost parallel to each other (*e.g.* pl. XVI:2, 4–5), but most frequently they cross each other obliquely (*e.g.* pl. XVI:6–8. We safely may conclude that we are concerned with half-timbered walls and without any doubt the intervals

66 Forrer 1927, II, 426 (dating), 429–30, pl. 54: 5, 57, 123.
67 *E.g.*: Peters 1963, fig. 103–4, 143, 186.
68 Praschniker / Kenner 1947, 183–4, 196–7, 218–20, 232–3, fig. 184, pl. 2–4.
69 Praschniker / Kenner 1947, 220.
70 Praschniker / Kenner 1947, 232.
71 Brandenstein 1960, 10, 28; Brandenstein 1963, 20.
72 Borda 1958, 113 (with fig.).
73 Anthony 1961; *Journal of Roman Studies* 51, 1961, 180–2.

were filled up with wicker-work. From some fragments can be deduced that there were poles in the corners. One of them has been represented, both the front and the reverse, on pl. XVI : 1a–b. The sloping front surface proves that this piece originates from a corner. Although our material is relatively rich it does not enable us to establish the further construction of the framework. Neither do we know in which direction the laths of the wicker-work ran. In pl. XVI the impressions have been illustrated horizontally, but the laths themselves may have had a vertical direction.

In the fragments which are preserved the first reddish layer has an average thickness of 19 (± 12) mm, the second reddish layer (on the wicker-work usually the only one) of 19 (± 7) mm, the grey layer of 5 (± 2) mm. Here, too, the final coat is very thin and hardly measurable.

The different plaster layers are composed in the same way as for the panel decoration and the garden. Large pieces of tiles are not found.

On almost all fragments the uppermost layer shows traces of brush strokes.

The paint has penetrated the stucco coating. The top coat is partly flaked and most colours are faded.

In this case, also, the decorative system to which the fragments belonged can only be reconstructed by combining pieces which may originate from different walls in the room. On pl. XVII A the fragments which contain most data have been restored to their original pattern (see also pl. XVII). The direction of the brushmarks has not been taken into account in all cases because these ridges do not run always in the same direction: generally they are vertical as is to be expected, but it is always possible that a plasterer under certain circumstances made horizontal strokes on the upper or lower section of the wall and above doors and windows. With the exception of small groups of fragments, especially those which originally belonged to frames, all the pieces not used still fit in the system built up in our reconstruction and they corroborate it.

We fairly may assume that in the room from which our fragments come the main part of the wall was decorated in this way. It does not seem likely that we are concerned with peristyle walls because flower motifs like these never occur in this part of a house, as far as we know.

Thick garlands composed of elongated lancet-shaped leaves which probably represent laurel were grouped in the corners. Part of these leaves has been painted in shades of purple and white, part in yellow ochres and white. In both cases the leaves are set against a dark grey background suggesting shadow thrown on the wall. Purple and ochre leaves occur together on one piece only. Probably in one and the same garland the colours were interchanged, but whether this was according to a regular pattern or by chance cannot be established. Judging from the sloping stucco surface the garland fragments could be situated in the corners. There are also fragments which must have belonged to left corners. Using evidence from analogous cases the direction with the leaves pointing upward was chosen. There are only a few pieces which form a connection between the garlands and the rest of the system. One of them has been used in the reconstruction.

The garlands apparently bordered white walls which were divided into squares measuring roughly 23 x 23 cm. At many places one can see how these squares were marked out with a stick in the still wet stucco surface. These lines helped greatly in composing the reconstruction. On the line intersections there are flowers with a yellow ochre button, a circle of small petals in brown, and of big petals in the same colour as the button. Starting from these flowers, green-leafed stems go in four directions, following the sketched squares' sides, but not always coinciding with them. Superimposed on these stems are rose-coloured buds which flank a motif approximately in the middle of the squares' sides. This motif varies as to execution, measurement and colour. Mostly it consists of two concentric oval lines, in different shades of green or brown, in black or in a combination of these colours. Generally the inmost oval is filled with a very light brown. Sometimes the motif is smaller than usual and consists of one brown or blue thick oval line, sometimes the oval is also filled completely and seems to represent a plum or cherry. It is not possible to establish the system according to which these variants were distributed over the wall. On pl. XVII A one sees the colours occurring in the fragments used for the reconstruction. In the centre of the squares there was a flower with a yellow ochre button, surrounded by a light rose-coloured ring with hardly distinguishable white hatching, followed by a circle of white petals standing out only very slightly against the white background. Groups of three green leaves surrounded these flowers in a cross-like arrangement. In the corners of the squares, approximately on the diagonals, there were small green buds from which a rose-coulored petal rises pointing to the centre.

The decoration as a whole seems to have been executed in a bold way, rather aiming at giving a general pleasant effect than a mass of detail. As was noted already, the design does not follow the preparatory sketch closely and the repeating elements are always somewhat differently worked out. The garlands have been painted with impressionistic effects. The white hatching in the rose-coloured area is rather arbitrary

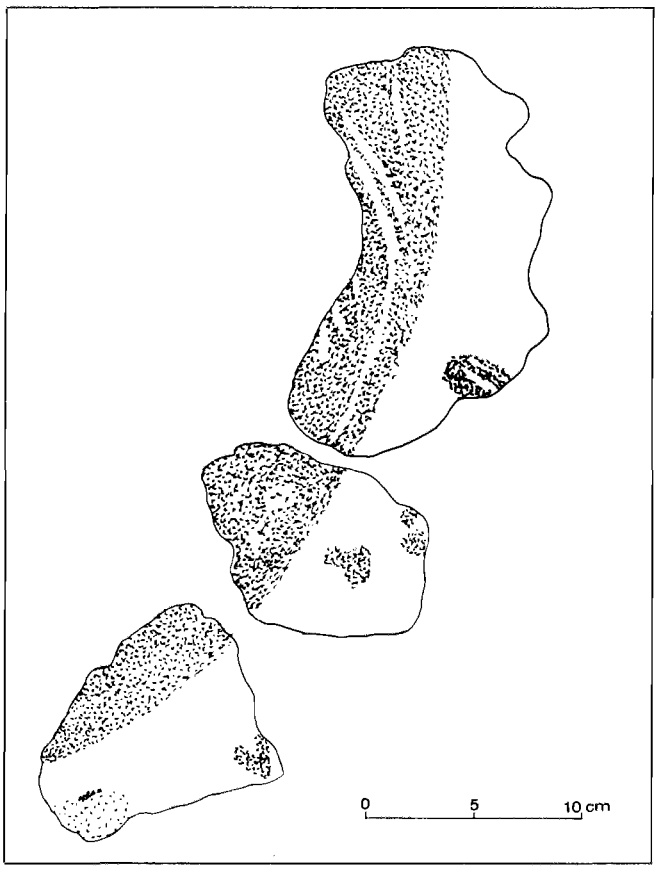


Fig. 11. Flower motif decoration, curtain

and cannot have been very effective. The ochre-and-brown flowers and the green leaves are painted in one shade of the same colour. The white background, however, determinates the impression, too, because the paint is mostly brought on transparently.

From the few fragments preserved can be deduced that the original walls must have had a certain liveliness and charm, just because of the carelessness and irregularity in the execution.

Among the fragments not treated hitherto, the most important are those in which parts of draped curtains are to be distinguished. It is most unfortunate that these pieces are badly damaged. Nevertheless, one can still just see that greyisch-blue to greenisch curtains were draped in wide curves against a white background. On this white we recognize part of our flower motif, but here it is scattered loosely over the surface. In the reconstruction (fig. 11) three pieces, probably originating from different places, have been brought together to give an idea of how it might have been. The fragments themselves do not provide a starting-point for establishing their position in the original context. We have to look for analogous cases. In Pompeii we can conclude that in the time of Nero and Vespasian draperies like these were applied preferably in the upper zones of the walls (*cf.* p. 123).[74] So the fragments in question are the only data which can teach us something about how the topmost part of our system can have looked. Nothing can be said, however, with certainty. No fragment has come to light which could form the link between the floral motifs arranged according to squares and the freely scattered ones, nor do we know how the walls were finished just below the ceiling.

Nothing has been found which could have belonged to a dado or socle below the flowered walls.

We are better informed regarding the way in which sides of doors, windows or niches were treated. In fig. 12:2, 5 and on pl. XVII:8–9 some corner pieces are represented. Part of the well-known square indicates that they belong to the system in question. On the surface of the wall we see a black border with a decoration in yellow ochre, which we met when discussing the garden fragments (p. 135): three-petalled stylized flowers alternating with pairs of buttons. Here, too, I assumed that the flowers pointed upwards. On the receding side a black border also runs along the corner, the rest of the surface is white. This second side has a crenated edge and is decorated with three rows of buttons (fig. 12:2a). If also the fragments not reproduced are taken into consideration, one can say that these buttons are in yellow ochre, reddish-brown or green. These colours occur in groups. Sometimes in one fragment we meet one colour only, sometimes we find them combined. In the sparse material preserved, a certain system cannot be discovered.

The black border described, figures also on fragments, which, judging from their stucco, originate from inner corners (fig. 12:3–4). Probably these were not the corners of the room itself, where we assumed the garlands were applied. It is rather likely that we are concerned with fragments from the rear wall of a niche. On some fragments the crenated border seems to show a slight curve so that perhaps these niches may have been arched (fig. 12:1). Though it is not certain that fragments as shown in fig. 12 originally occurred in combination, it is not impossible that niches were found which had the same kind of bordering for their rear wall and their sides.

74 *E.g.*: House IX, 2 10: Schefold 1962, 127, pl. III. See also: Peters 1964, 146–8.

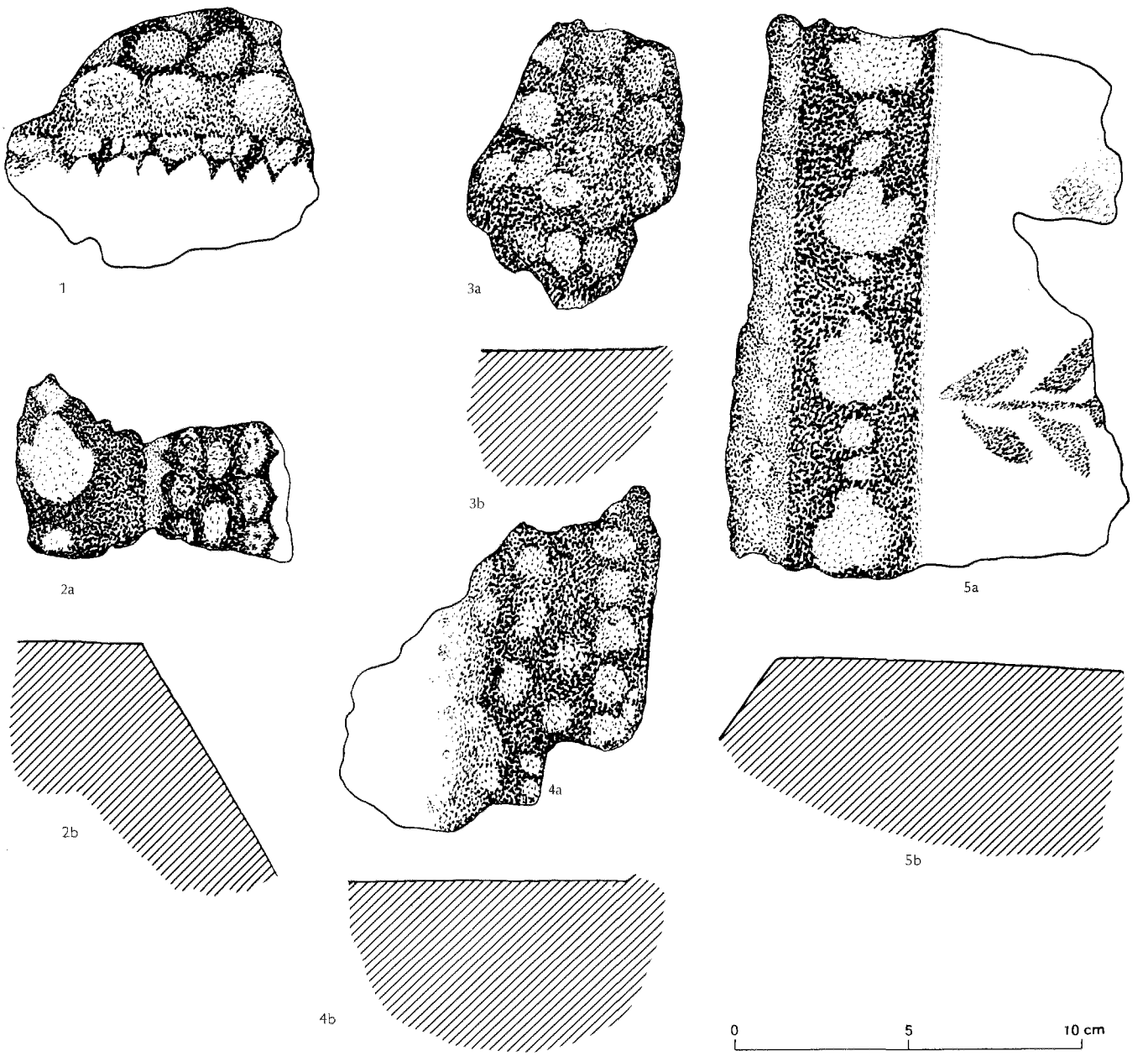


Fig. 12. Flower motif decoration, corners

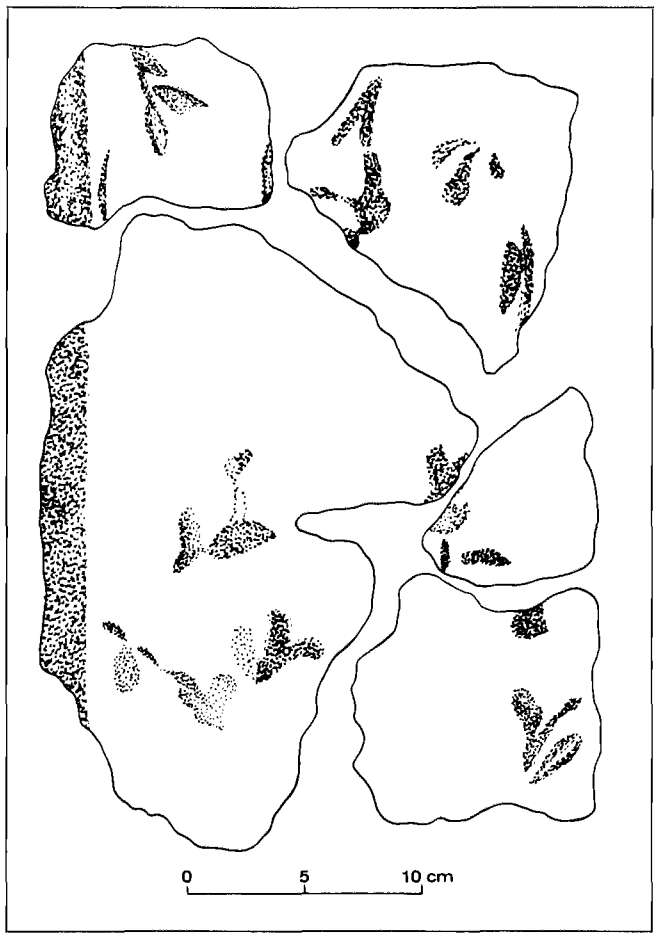


Fig. 13. Flower motif decoration

The original position of a certain number of other pieces partly illustrated in fig. 13, could also have been the rear wall of a niche. In any case, the stucco layer indicates a corner. We see part of a plain black border starting from this corner. Small branches wander over a white surface. They have leaves and ochre flowers, executed in a way reminiscent of the main flower pattern.

Related to the fragments just mentioned are the pieces which constitute the reconstruction in fig. 14. These fragments made it possible to compose the frame of an arched window or niche.[75] Judging from discrepancies in the direction of the brush-marks, it must be assumed that they originate from more than one such frame. The central element consists of a stiffly wreathed thin garland which runs concentrically with a broad light-grey border at the inner side. At the outside, flowers rise from the garland on gracefully bent stems. These flowers are related to the well-known ochre-and-brown ones.

Repeating geometric patterns in which flower motifs are incorporated, are quite appropriate to woven material and probably their origin lies in textile art. They are continued in our wall-paper which is also derived from woven fabric. Vela played an important rôle in the Roman interior, where they served practical purposes by closing all kinds of openings, as is seen for instance in mythological pictures.[76] In the painted architectonic prospects of the last half-century of the Republic[77] and in Neronian wall decoration[78] vela are widely used. We see them stretched, hanging down limply, or draped and looped up in a decorative way. However, patterns were very sober, and as a rule restrained to a simple border motif. All-over floral patterns came into fashion only in Vespasian time.[79] We see them applied in the upper part of the wall, in the middle section and on ceilings. The relation to woven material is apparent in the stiffness of the design. One of the oldest examples is to be seen in Pompeii, in the Casa degli Amorini Dorati in the *cubiculum* from which this house derives its modern name.[80] The walls, in wich the glass discs with the golden cupids are set, are decorated with a recurring pattern of hexagons and rectangles combined with stylized flower motifs. The design in brown has been put on a yellow ochre background, and the motifs are small. The decoration of a Pompeian bar facing the Via dell'Abbondanza,[81] is closer to our fragments; here a colourful lozenge-and-flower pattern stands out against a white background.

In Roman mural painting 'Tapetenmuster' or 'wall-paper patterns', as one usually calls them, are rather frequent, but not before the third century A.D. Drack[82] pays due attention to this decoration type. After having pointed to the

75 *Cf.*: Drack 1950, 110, fig. 107 (Schleinikon); 118, fig. 120 (Wagen).
76 *E.g.*: Schefold 1962, pl. 59: 4. See also: Peters 1964.
77 *E.g.*: Pompeii, Casa del Labirinto: Schefold 1962, pl. 22.
78 *E.g.*: Pompeii, Casa della Caccia Antica: Schefold 1962, pl. 16: 2. See also notes 36–8.
79 Schefold 1953–4, 113.
80 *Notizie degli scavi di antichità* 1908, 34.
81 Spinazzola / Aurigemma 1953, I, 249–50, fig. 278, pl. 5.
82 Drack 1950, 31–4.

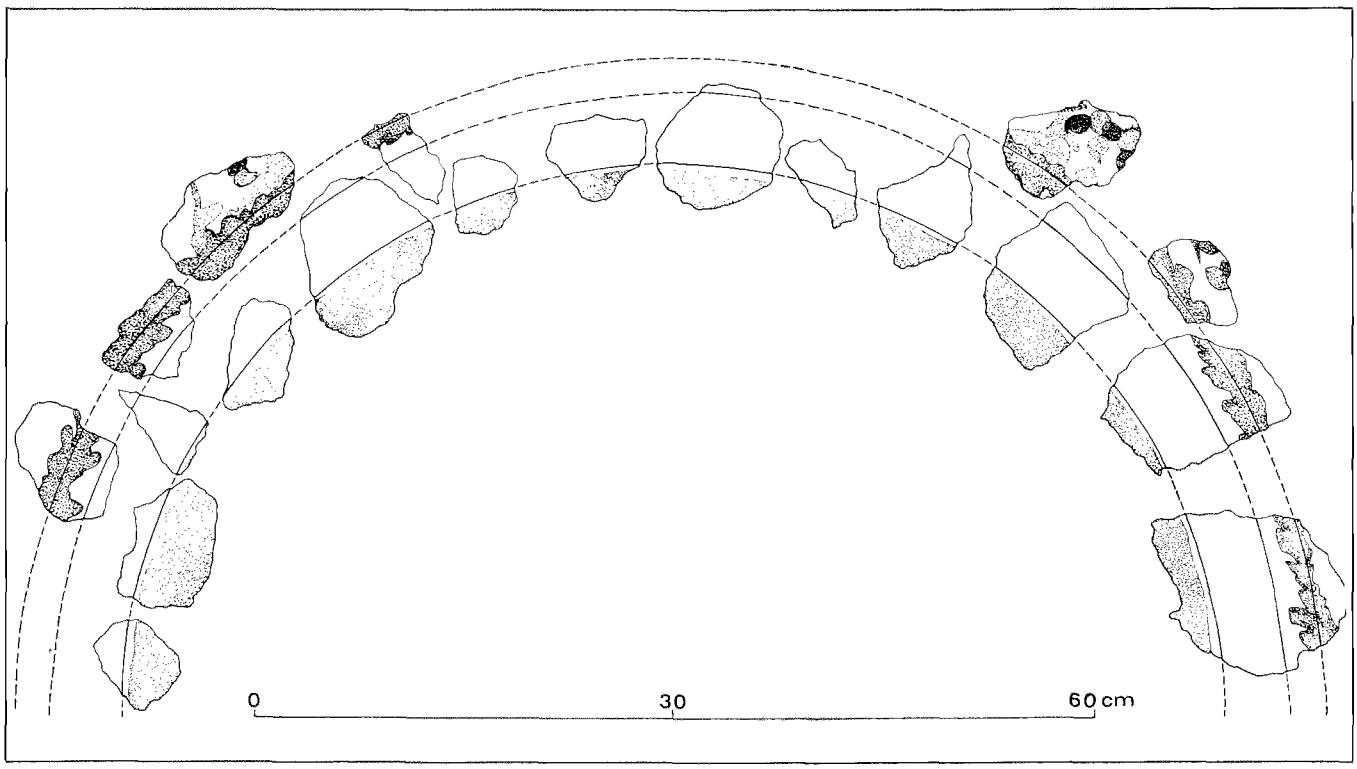


Fig. 14. Flower motif decoration, arch, reconstruction

Pompeian examples he expresses the opinion that in the first and second century A.D. 'diese trockene Malereiart' disappeared and returned in the third. Henriette Brandenstein,[83] too, dealing with Carnuntum painting dates 'Tapetenmuster mit unendlichem Rapport' mainly in the second half of the third century A.D. A dating in this period is also proposed by Doppelfeld[84] in relation to Germany. In Virunum[85] and Sabratha[86] examples have been found which can be dated to the third century A.D. and to the fourth Meanwhile some Roman provincial mural paintings resembling wall-paper can be dated earlier. Christlein[87] published two reconstructions of such a scheme based on fragments found in Marzoll; he dated them to the second half of the second century A.D. The well-known red ceiling from Verulamium with the birds and the flowers in interlacing hexagons dates from the second century A.D. also.[88]

Floral decoration on base of a geometric division of the wall is obviously widely spread chronologically and geographically and thus the system as such does not provide us with firm grounds for dating. Close parallels to the system represented in Nijmegen do not occur among Roman provincial material published hitherto.

One can make the following observations regarding the execution. In Pompeii, we note a stiffness which makes Schefold[89] call these decorations 'langweilig'. This feature is to be seen as a close connection between imitation and model, the woven fabric in which regularity is caused by technique. The free and picturesque handling of the pattern on the

83 Brandenstein 1960, 10; Brandenstein 1963, 20.
84 Doppelfeld 1962–3, 163.
85 Praschniker / Kenner 1947, 175–6, 221–2, 232–3, pl. 1, fig. 154–6.
86 Pesce 1951, 162, fig. 8; Borda 1958, 365 (with fig.).
87 Christlein 1963, 43–4, 55 (dating), pl. 1.
88 *Antiquaries Journal* 39, 1959, 17–8, pl. 1; Toynbee 1962, 194, pl. 196, 198; Toynbee 1964, 215–6, pl. 51b.
89 Schefold 1953–4, 113.

Nijmegen fragments proves that the imitation has moved away from the original. Other comparative material has not been published to enable us to deduce more evidence from stylistic criteria.

Garlands are a favourite element in Roman mural decoration. In late-Republican time they are thick and hang down limply between pillars and columns. I know of no straight-hanging garland from that period in Italy. But they do occur in a first-century B.C. house in Glanum,[90] where they figure in the narrow areas separating the panels in the middle section of the walls. In Augustan times garlands became thin, and they occur stretched horizontally as well as hanging straight down. In Nero's day, in addition to the thin garlands we see the thick ones and both types were applied in different ways.[91] However, I did not find them in Italy or among the published Roman provincial paintings combined with floral-and-geometric patterns. Nevertheless, the way in which garlands are applied in the *viridarium* of the House of the Ceii in Pompeii,[92] decorated in the Vespasian period, makes one think of Nijmegen: here big pictures, a scene with animals, a landscape with pigmies and a sacral landscape, are framed by thick garlands along the top and down the sides. Garlands reminiscent of the Nijmegen ones are very common in mosaics all over the Roman empire. Thin garlands as we saw in our arched frame appear to be a very common motif both in Italy and the Roman provinces;[93] they are not limited to a special period.

Curtains in Roman mural painting have been mentioned already (p. 123). In the Allard Pierson Museum in Amsterdam there is a fragment on which part of a draped curtain is to be seen; it comes from Italy, probably Rome, and it can be dated to Nero's time.[94] Among published Roman provincial mural paintings I did not come across any curtains draped in the same manner as in the Nijmegen castra.

Decorated borders in a great variety of designs are very common in the entire Roman mural decoration but they cannot be ascribed to a certain period. The flower-and-button motif appears to be related to a 'wall-paper pattern' from Allaz, dated to the second half of the second century A.D.[95] For the crenated border a good parallel is found in the Pfaffenkeller in Augsburg, of which the decoration can be dated to the second century A.D.[96]

All motifs combined with the Nijmegen 'wall-paper pattern' are found elsewhere, but as they occur in many places and cover a large period of time, they do not provide data enabling us to reach a more precise dating.

Conclusions

The garden prospects and the flowered walls can be ascribed to the same workshop. The black bands with the three-petalled flowers and buttons are the most obvious common feature. Both systems are also related in colour scheme and treatment. The common origin of the two decorations does not imply that they were applied at the same time or even shortly after each other, but they certainly date back to about the same period.

I thought it possible that the panel decoration could have been applied directly after the erection of the buildings of the stone period. The same may apply for the two other systems but nothing can be said with certainty.

An examination of the systems and the way in which they were treated did not provide us with corroborative evidence to support the most probable dating derived from external criteria, on the other hand we find no contradictory data. It seems fairly clear so far that the paintings represented in find nos. 900 and 971 were made for the Legio X Gemina between about 85 and 90 A.D. However, if future research should prove that on external grounds the paintings in question have to be dated some ten years earlier, this would be no supprise as far as the paintings are concerned.

Acknowledgements

During the last years of his life Prof. Dr. H.G. Beyen came several times to look at the fragments. He was intensily interested in the investigations and on many occasions gave wise advice. It is with gratitude that I have dedicated this article to his memory.

I am grateful to Prof. Dr. H. Brunsting not only for the liberal way in which he has allowed me to use the material, but also for the information he has given me.

I thank Dr. W.A. van Es for the help I received from the *Rijksdienst voor het Oudheidkundig Bodemonderzoek.* In particular I would like to mention Mr. H. van Zomeren who, in making the drawings and water-colours, had to assimilate completely new material. On my many visits to the Nijmegen castra Mr. R. Woudstra was a faithful guide and I thank him for his patient explanations.

Dr. P. Stuart and Drs. C.G.A. Morren have kindly allowed

90 Rolland 1958, III, fig. 12.
91 *E.g.*: Pompeii, House of the Vettii: Schefold 1962, pl. 12: 1.
92 Spinazzola / Aurigemma 1953, I, 280–1, pl. 305–8.
93 Drack 1950, pl. 3, 9, 28, fig. 33, 35, 38, 58, 69.
94 Peters 1964, 146–7, fig. 9.
95 Drack 1950, fig. 162 on *Beilage* 5.
96 Parlasca 1956, 24–5, pl. 14–5.

me to use the results of their investigations into the pottery. For this I am indeed greatly indebted.
It is thanks to Prof. Dr. A.N. Zadoks-Josephus Jitta that the investigations could be carried out in Groningen. Through her unflagging interest she encouraged the study, she found an attic in the Oude Boteringestraat 43. Mr. J. Klein kindly allowed us to use it, for which I wish to thank him.
My former pupils at St.-Maartenscollege at Haren (Gr.) gave me great support by cleaning and classifying the pieces. I thank them all and in particular Jaap van der Werff who, in his great enthusiasm sacrified many holidays for this work.
Last but not least I thank Mrs. F.M. Daendels-Wilson who corrected the English text.

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APPENDIX

A General Description of the Composition of the Mortar Layers, by J.A. Brongers.

The intention of this investigation was to determine the composition of the mortar layers. We especially wanted to know if there were clear differences in composition between the three described decoration systems. If so, it would be possible to attribute some loose parts to any of the three systems. This investigation was not done by conventional wet elementary analysis as is often reported, as one can not expect significant differences in the chemical composition of the samples.

Our reasoning was: if there were particular differences between the mortars one should be able to detect them by visual inspection of the constituent parts c.q. in one system one should find more terra sigillata sherds or some typical stony elements.

To obtain our information we dissolved 6 samples (2 of each system) of 100–400 g in hydrochloric acid. We did not separate the different layers. In this way the calciumcarbonate was removed and the not dissolved material was washed with water to remove all soluble salts and the excess of the acid. The unsoluble rest was dried.

By means of sieves this rest was divided in gravel (particles greater than 2 mm) and sand (particles between 0.06 mm and 2 mm). Particles smaller than 0.06 mm were removed.

The gravel-fraction was studied by means of a binocular loupe. It consisted mainly of fragments ceramic material (tiles and pottery) and quartz, also some felspar and quarzite was present. We also found some fragments of charcoal and slag. Therefore we think the ceramic material was obtained from the waste of a pottery or tile-works. Nearly all ceramic material consisted of more or less coarse fragments, only very few terra sigillata fragments were found.

Of the sand-fraction the amount of heavy minerals was determined, this was less than 1 %.

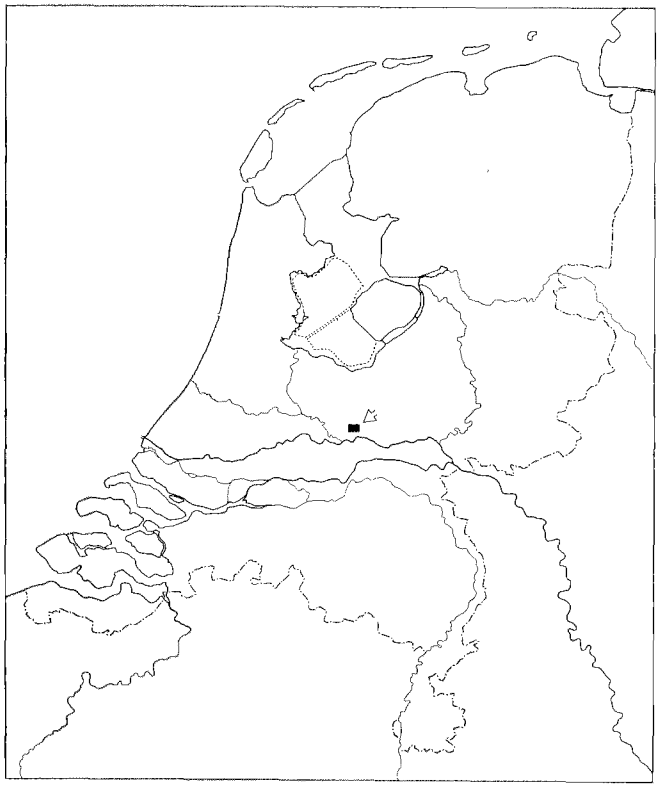
From the upper layer we scraped some material. For the larger part it consisted of calciumcarbonate. Herein was also a mineral fraction, which was not attacked by hydrochloric acid. It seems probable in this upper layer no crushed marble was added as is prescribed by Vitruvius, *De Architectura*, VII, 3, 6, but it seems probable that one used very fine sand. One gets the impression the colouring agents were embedded in the calciumcarbonate.

For the composition of the complete mortar the following overall composition (in weight %) can be given; 30% calciumcarbonate; 10% gravel and 60% sand. The gravel-fraction consisted of about 45 % ceramical and 55 % mineral material.

We could not detect any significant differences between the mortars of the different decorative systems, neither in the percentual composition nor in the used ceramics or minerals.

J. YPEY

Das frühmittelalterliche Gräberfeld in Leersum, Prov. Utrecht



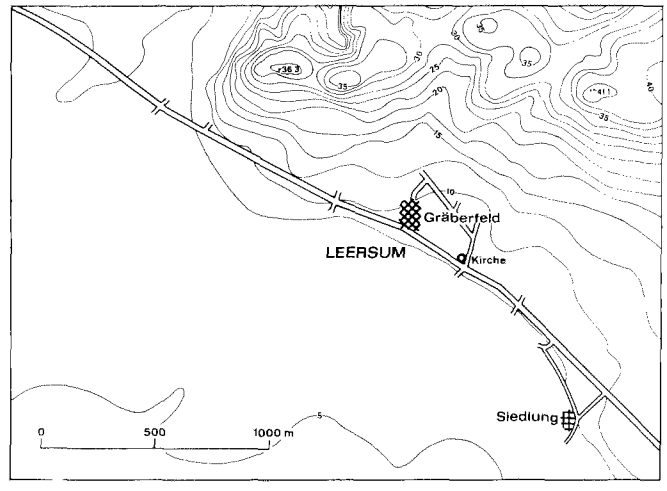


Abb. 1 Lage des Gräberfeldes von Leersum

Seit mehreren Jahren befinden sich in der Sammlung der Provinciaal Utrechts Genootschap (P.U.G.) in Utrecht und in Privatbesitz, zahlreiche Gefässe und andere Gegenstände, die aus einem Gräberfeld in der Gegend der Bentincklaan in Leersum stammen, und um 1931 bei Hausbau zutage gekommen sind. In der Absicht, sie einmal zu veröffentlichen, hatte ich schon seit längerer Zeit Notizen über die Gefäse im Utrechter Museum gemacht. Der Anlass, mich eingehender mit den Leersumer Funden zu beschäftigen, bot sich, als im Februar und September 1961 bei Kanalisationsarbeiten von neuem merowingerzeitliche Gefässe und Scherben aufgedeckt wurden. Wir haben es Herrn H.J. Reusink in Leersum zu danken, dass durch seine fortwährende Wachsamkeit und seinen Spürsinn trotz der ungünstigen Umstände ein Maximum an Daten zusammengebracht wurde.

Herr Reusink machte auch die in früherer Zeit gefundenen Gefässe, soweit sie jetzt in Privatbesitz sind, ausfindig und sammelte Angaben über deren Fundstellen und Fundum-

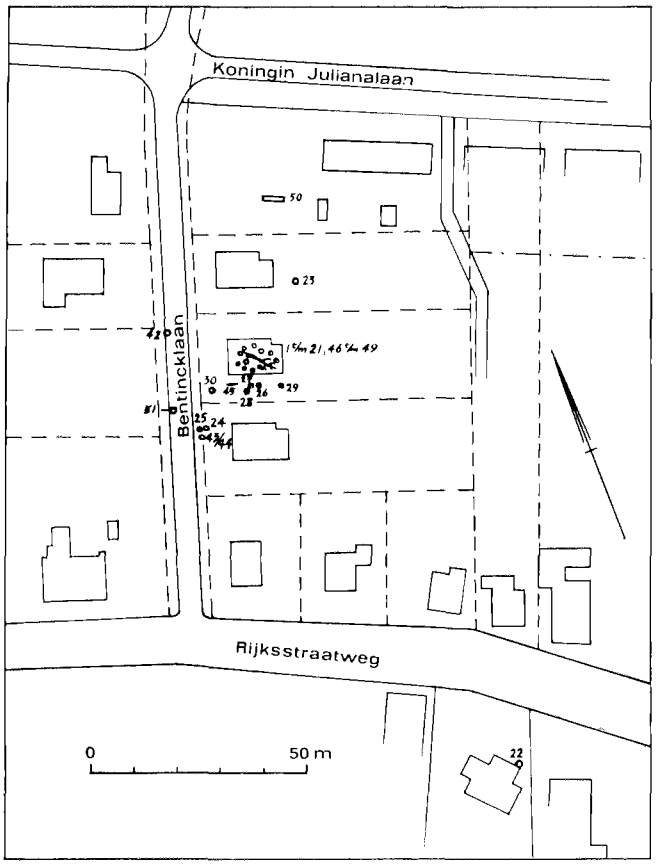


Abb. 2 Plan des Gräberfeldes

stände. Auf diese Weise ist doch ein ziemlich klares Bild gewonnen worden.

Die bisher betriffs des Gräberfeldes bekannten Daten werden hierunter kurz zusammengefasst.

Lage und Fundumstände

Das Gräberfeld liegt im Zentrum von Leersum, am Fusse des Utrechter Hügelrückens. Das abfallende Gelände ist ein Teil des früheren Gemeindeangers (Abb. 1). Aus den Nachforschungen des Herrn Reusink hat sich ergeben, dass der Gemeindeanger 1563 in einer Akte genannt wird. Das Gelände, das hauptsächlich aus unfruchtbarem Boden besteht, erstreckte sich vom Gooyer-Wetering (= Wasserlauf) in nördlicher Richtung und umfasste den ganzen Leersumer Berg. Wie ph-Messungen von Herrn Reusink zeigten, besteht das Gelände des Gräberfeldes aus saurem Boden. Hier wurden 1931 von Herrn J.W. Verloop und dem Unternehmer Herrn Van Spijkhoven Häuser gebaut. Bei den Schachtungsarbeiten wurde ein mehr als 3 m langer Baum, an dem sogar noch die Äste vorhanden waren, aufgedeckt. An dieser Stelle, um den Baum gruppiert, wurden die Gefässe mit Leichenbrand gefunden (Abb. 2, die Nummer 1–21). Nach dem Herrn Van Spijkhoven standen die Gefässe in kleinen, bis 50 cm tiefen, mit Flussand gefüllten Gruben. In dieser Gegend kamen auch die Scherben 46–49 zutage. Ein grosser Teil der Funde ist von der P.U.G. aufgekauft worden.

Von dem guten Erfolg ermutigt, schürften die beiden Herren weiter nördlich, wobei sie das Skelettgrab 50 fanden, das offenbar West-Ost orientiert war (Abb. 2: 50). In Gürtelhöhe soll eine Bronzeschnalle gefunden worden sein, die aber später verloren ging. Auf einem alten Grabungsfoto habe ich nichts mehr feststellen können. Wahrscheinlich gehörte dieses Skelettgrab auch zu dem Gräberfeld.

Die in dieser Gegend gemachten Funde streuen über eine Fläche von 60 x 40 m. Darüberhinaus wurde bei Erdbewegungen bisher noch kein Grab gefunden.

Nach den dort gemachten Urnenfunden wurde der damalige Sandweg in 'Urnenweg' umbenannt. Einige Jahre später wurde dieser Name in 'Bentincklaan' umgeändert.

Südlich von der Rijksstraatweg wurde 1935 beim Ausheben einer Fundamentgrube eine handgemachte Fusschale mit Leichenbrand aufgedeckt (Abb. 2: 22). Dieser Fund ist älter als die Brandgräber an der Bentincklaan. Es ist zweifelhaft ob die weitauseinanderliegenden Fundstellen zu einem Gräberfeld gehören. Ungefähr 90 m nördlich des Gräberfeldes ist bei einem Wohnungsbau und dann wieder 1961 bei den Kanalisationsarbeiten eine Holzkohleschicht beobachtet worden. Es wurden jedoch darin keine Scherben gefunden. Das Fehlen von Scherben in dieser Schicht legt die Vermutung nahe dass es sich um den Verbrennungsplatz des Gräberfeldes handelte.

Bei Erdarbeiten wurde 1955 zwischen dem Grabe 50 und der Hausbaustelle von 1936 ein weiteres Grab (23) aufgedeckt.

Bei den Kanalisationsarbeiten 1961 wurde in der Länge der Bentincklaan gegraben. Dazu kamen noch die Schachtarbeiten für die Anschlüsse einiger Wohnungen. Es wurde nicht tief gegraben, aber mehrere Gefässe und Scherben kamen zutage, darunter drei römische Spruchbecherscherben (Nummer 4/45). Von einer Anzahl der Funde konnte die genaue Fundstelle festgestellt werden. Diese Nummern (24–30, 42–45) sind im Plan Abb. 2 angegeben. Die anderen Scherben sind Lesefunde aus dem Aushub, deren genaue Fundlage nicht mehr feststellbar war. Sie stammen jedoch fast alle aus dem Graben, in dem auch die Nummern 30 und 29 gefunden worden sind. Nummer 42 stammt mit einigen Scherben aus dem Hauptgraben in der Bentincklaan. Da dies die einzige Fundstelle im Hauptgraben war, darf man

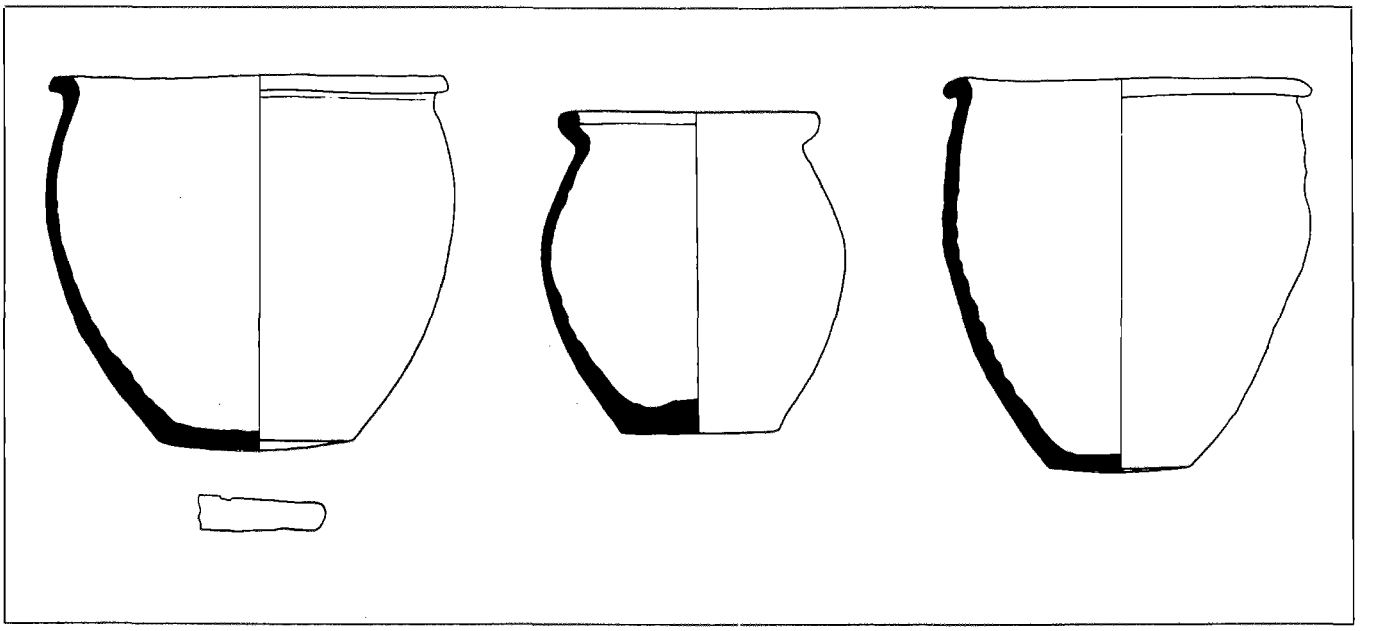


Abb. 3 Leersum, Nr. 1

Abb. 4 Leersum, Nr. 2

Abb. 5 Leersum, Nr. 3

annehmen, dass das Gräberfeld sich nur auf der östlichen Seite der Bentincklaan erstreckte. Jedoch konnte bei den flachen Aufschlüssen nicht festgestellt werden, ob Skelettgräber vielleicht über eine grössere Fläche streuen.

Die meisten der schon vorher gefundenen Gefässe enthielten Leichenbrand und auch diesmal stammten die *in situ* gefundenen Gefässe aus Brandgräbern. Nur der Fund eines Skramasax aus tieferer Lage deutete auf ein Skelettgrab. Leider wurde nur an wenigen Stellen tiefer gegraben. Die Arbeiter hatten das 'Stück Rost' zur Seite geworfen, und als Herr Reusink kam, war eine Nachuntersuchung nach evtl. vorhandenen Beifunden nicht mehr möglich. Da jedoch alle Brandgräber in höherer Lage gefunden wurden, der Skramasax aber in ca. 100 cm Tiefe lag, ist mit einer tieferen Schicht von Skelettgräbern zu rechnen. Später kam noch heraus, dass auch ein Beil in tieferer Lage zutage gekommen war. Die Tiefe der Brandgräber betrug ca. 50 cm unter der Oberfläche. Die zahlreichen Scherben im bearbeiteten Boden deuteten auf weitere zerstörte Gräber. Schon 1931 hatte man beobachtet, dass viele Gefässe vom Pflug zerbrochen oder am Rande beschädigt waren.

Das Gräberfeld ist jetzt um grössten Teil überbaut. Eine Nachgrabung in den Gärten hat noch nicht stattfinden können.

An anderer Stelle in Leersum ist vor Jahren ein Grundstück abgegraben worden (Abb. 1: Siedlung). Dabei scheinen merowingerzeitliche Scherben und Brunnenanlagen beobachtet worden zu sein. Möglicherweise wurde hier also eine merowingerzeitliche Siedlung angeschnitten.

DIE FUNDE[1]

1. P.U.G., ohne Inv. Nr., mit Zettel 'Baron van Heerde' (wohl von diesem geschenkt worden). Abb. 3.
Eiförmiger Kochtopf. Rauhwandig, sandig gemagert. Ockerfarbig mit starkem Russansatz. Zerbrochen, ungefähr der halbe Rand und grosse Teile der Wandung fehlen.
H.: 19.5/19.8; M. Dm.: ± 20.0/21.2; gr. Dm.: ± 21.5/± 22.0; B. Dm.: 10.2/10.7.
Inhalt: Griffangel eines Eisenmessers, offenbar mitverbrannt. L.: noch 3.4.

1 Masse in cm. H. = Höhe; L. = Länge; Br. = Breite; D. = Dicke; Dr. = Durchmesser; M. = Mund; Kn. = Knick; B. = Boden; gr. = grösste; max. = maximal; li. = links, linke; re. = rechts, rechte.

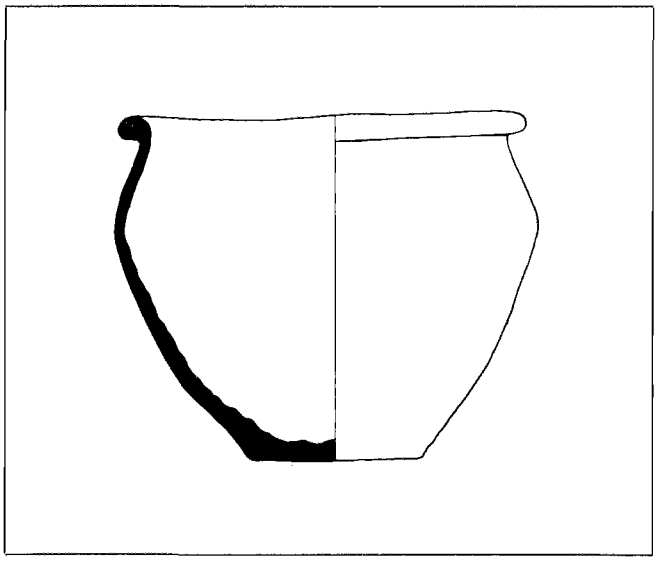


Abb. 6 Leersum, Nr. 4

2. P.U.G. 7392. Abb. 4.
Eiförmiger Kochtopf mit 'Deckelrinne'. Aussenseits fein gerippt. Offenbar sehr feine Magerung, jedoch mit groben Stückchen darin. Bleigrau. Zerbrochen, vollständig erhalten.
H.: 16.3/16.9; M.Dm.: 13.8/13.9; Wand gr. Dm.: 16.2/16.4; B. Dm.: ± 8.0/8.6.
Inhalt: Leichenbrand.

3. P.U.G. 7393. Abb. 5.
Eiförmiger Kochtopf. Rauhwandig, sandig gemagert. Dunkelocker bis bräunlichgrau. Stark gebrannt. Einige Risse, kleine Rand-Wandscherbe fehlt.
H.: 19.8/21.1; M.Dm.: 19.1/19.8; gr. Dm.: 19.1/19.8; B. Dm.: ± 7.8.
Inhalt: Leichenbrand. Darin zwei formlose Fragmente verbranntes Glas, eisblau und weiss, wohl von geschmolzenen Glasperlen.

4. P.U.G. 7395. Abb. 6.
Weiter, eiförmiger Kochtopf. Rauhwandig, mässig gemagert. Warmocker mit starkem Russansatz. Oberteil auf einer Seite zerbrochen, vollständig.
H.: 17.8/18.7; M.Dm.: 21.4/22.2; gr. Dm.: 22.3/22.8; B.Dm.: ± 9.0.
Inhalt: nicht erhalten.

5. P.U.G. 7396. Abb. 7 und Taf. XVIII : 2.
Grosser, eiförmiger Topf mit drei Bandhenkeln. Rauhwandig, sandig gemagert. Oberfläche doch ziemlich glatt. Ocker bis dunkelwarmocker. Oberteil zerbrochen, zwei Drittel des Randes, zwei Henkel und etwa ein Drittel des Schulterteils fehlen.
H.: 35.1/35.4; M. Dm.: ± 12.0/± 13.0; gr. Dm. 31.0/31.4; B. Dm.: ± 12.4.
Inhalt: Leichenbrand und Fragment eines eisernen Messers. Spitze der Messerklinge abgebrochen. Auf beiden Seiten der Klinge eine Rille parallel zum Messerrücken.
L.: noch ± 11.2; Griffangel L.: 4.5; Klingenbr.: ± 1.9.

6. P.U.G. 7397. Abb. 8 und Taf. XVIII : 3.
a. Eiförmiger Kochtopf mit eingeschnürtem Hals, schwacher 'Deckelrinne' und geknickter Gefässwand. Rauhwandig, feinsandig gemagert. Warmocker mit starkem Russansatz. Einige Risse.
H.: 18.1/18.5; M. Dm.: 14.1/15.05; gr. Dm.: 17.1/17.45; B. Dm.: 8.5/8.8
Inhalt: Leichenbrand. Dazwischen Fragmente eines Spinnwirtels aus Knochen und verbrannte Bronze- und Eisenfragmente.
b. Schnalle mit ovalem eisernem Bügel und Dorn und rechteckigem Messing- oder Bronzebeschläg mit drei Nietlöchern.
Gesamtlänge, flach liegend: ± 4.5. Bügel: 2.7 x 1.7; Dorn L.: ± 2.2.; Beschläg: ± 3.0 x 1.7.
c. Fragmente eines knöchernen Spinnwirtels, verbrannt. Ornament mit eingeritzten Kreisen und eingetieften Punktkreisen. Die Form konnte rekonstruiert werden. Es entstand ein Sechsstern mit Punktkreisfüllung in den Zwischenräumen. Das Mittelloch ist zylindrisch.
Gr. Dm.: ± 3.7; H.: 1.45; Bohrung Dm.: ± 0.9.
d. verbrannter Bronzestreifen.
e. verbrannter Bronzestreifen, der durch die Öse eines Eisenfragments gezogen ist.

7. P.U.G. 7398. Abb. 9.
Weitmundiger, kugeliger Kochtopf. Rauhwandig, sandig gemagert. Graubraun mit starkem Russansatz. Einige Risse im Rand.
H.: 15.3/15.8; M. Dm.: 18.6/19.1; gr. Dm.: 19.0/19.3; B. Dm. 10.6/10.8.
Inhalt: Leichenbrand.

8. P.U.G. 7399. Abb. 10 und Taf. XVIII : 1.
Knicktopf. Glattwandig, Oberfläche jetzt stark abgesplittert. Grau. Einreihige Strichradstempelung auf Schulter. Topf unbeschädigt bis auf einem Riss.
H.: 16.5/16.8; M. Dm.: 17.5/18.2; Kn. Dm.: 19.8/20.1; B. Dm.: 6.5/6.8.
Inhalt: Leichenbrand. Darin geschmolzenes Glas mit gelbgrünliche und rotviolette Farben. Wohl von Glasperlen.

9. P.U.G. 7400. Abb. 11.
Kleiner, tonnenförmiger Kochtopf. Rauhwandig, feine Magerung. Ockerfarbig mir starkem Russansatz. Zerbrochen, zwei Fünftel vom Rand und ein grosser Teil der Wand fehlen.
H.: 13.7/14.8; M. Dm.: 14.2/± 14.5; Wand gr. Dm.: 13.8/14.1; B. Dm.: 8.0/8.5.
Inhalt: nicht erhalten

10. P.U.G. 7401. Abb. 12.
Kleiner eiförmiger Kochtopf. Rauhwandig, mässig gemagert. Schwach orangerot mit starkem Russansatz. Ziemlich schwach gebrannt. Zerbrochen, einige Wandscherben fehlen.
H.: 14.1/14.6; M. Dm.: 14.4/14.7; Wand gr. Dm.: 13.8/14.2; B. Dm.: 6.0.
Inhalt: nicht erhalten.

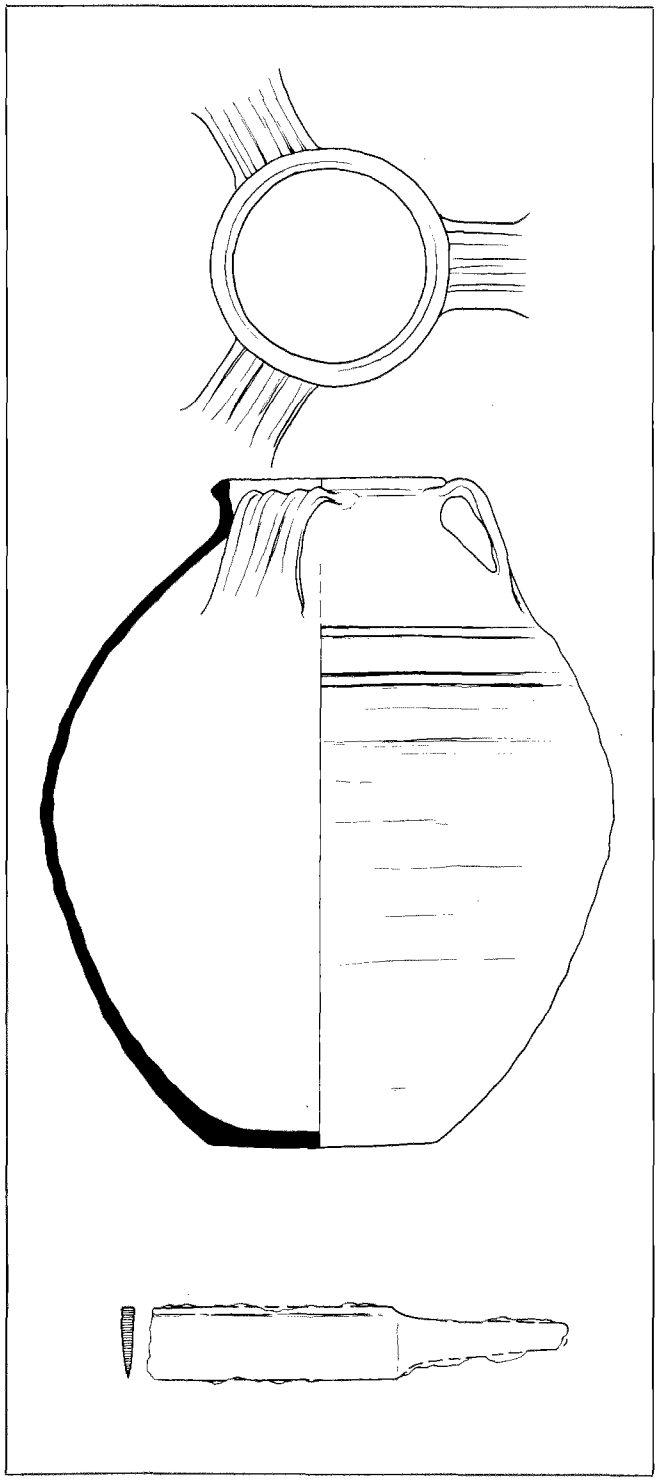


Abb. 7 Leersum, Nr. 5. Messer 1 : 2

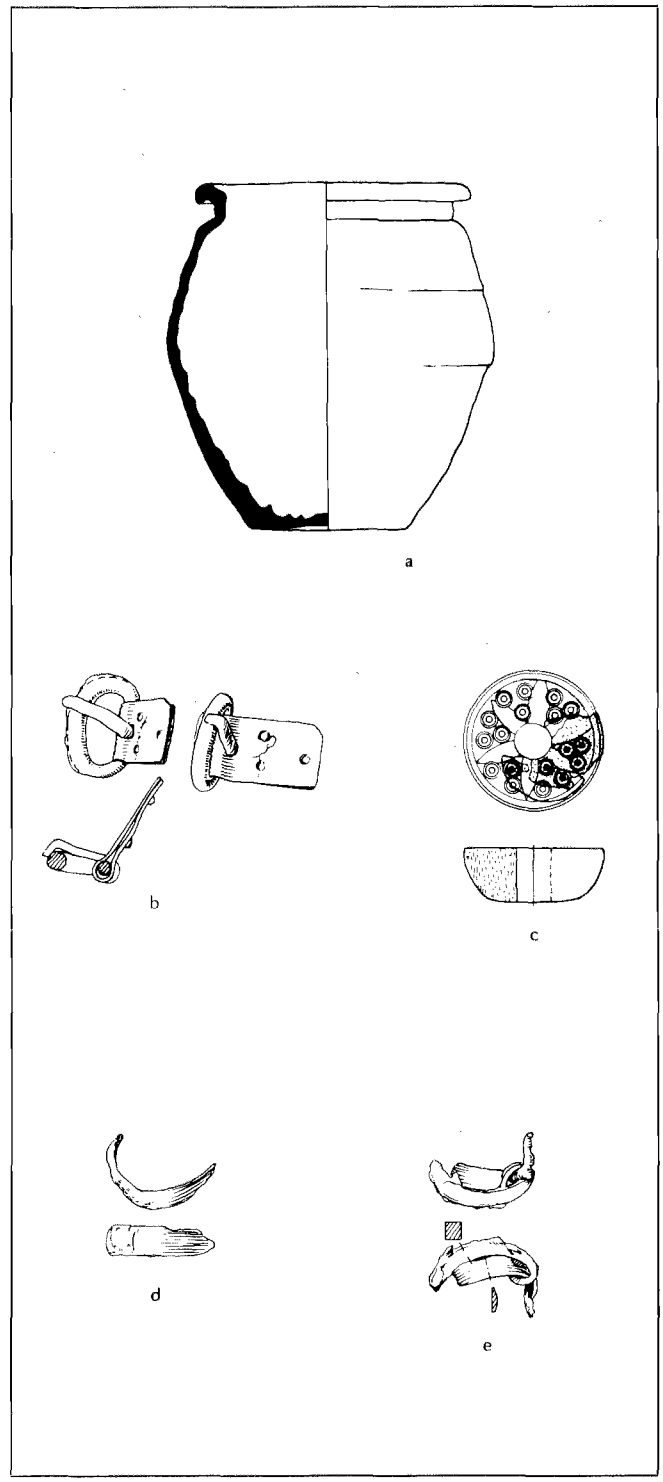


Abb. 8 Leersum, Nr. 6. Topf 1 : 4, andere Gegenstände 1 : 2

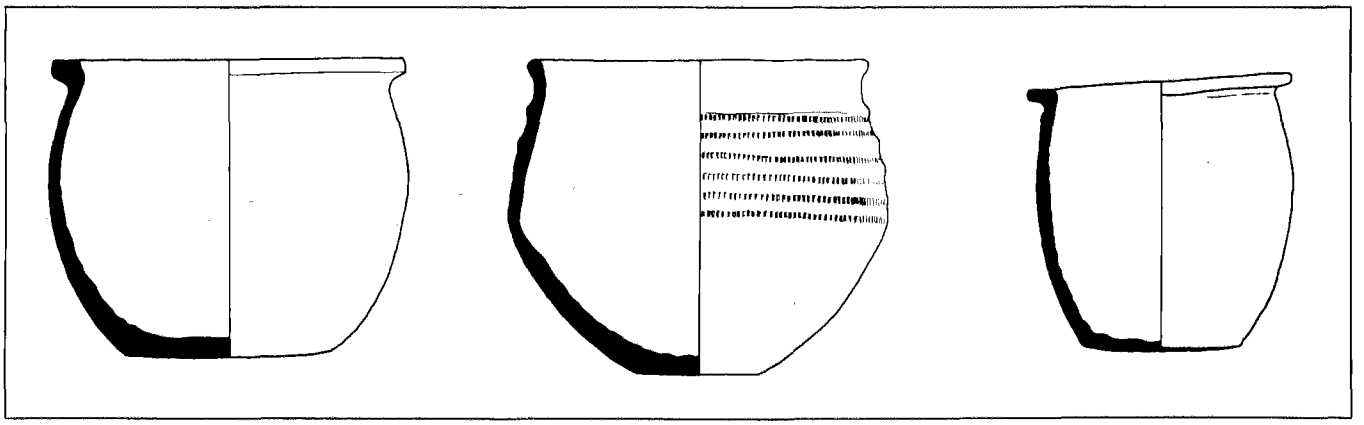


Abb. 9 Leersum, Nr. 7

Abb. 10 Leersum, Nr. 8

Abb. 11 Leersum, Nr. 9

11. P.U.G. 7402. Abb. 13.
Eiförmiger Kochtopf. Rauhwandig, mässige sandige Magerung mit vereinzelten, gröberen Körnern. Orangefarbig mit starkem Russansatz auf untere Hälfte. Zerbrochen, einige Wandscherben fehlen.
H.: 24.6/25.1; M. Dm.: 22.7/23.7; gr. Dm.: 24.6/25.2; B. Dm.: 9.2/9.8.
Inhalt: nicht erhalten.

12. P.U.G. 7404. Abb. 14 und Taf. XIX : 1.
Bronzene Riemenzunge, unverziert. Mit drei Bronzenieten und losem rückwärtigem Bronzeblech zur Riemenbefestigung.
L.: ± 14.4; Br.: 1.5/1.7; D.: ± 0.25.

13. P.U.G., ohne Nummer (vielleicht 7403?). Abb. 15 und Taf. XVIII : 4.
Bronzene Schnalle mit ovalem Bügel und rechteckigem Beschläg mit zwei Eisennieten.
L.: 4.65; Bügel: 1.95 x 3.2; Beschläg: ± 3.0 x 2.2.

14. P.U.G. 7405. Abb. 16.
Zweiseitige eiserne Säge. Durch Korrosion stark angegriffen und verformt. Auf einer Seite ± 40 Zähne auf 10 cm; auf der anderen Seite ± 30 auf 10 cm. In der Rostverkrustung Gewebereste: Leinenbindung, 13/14 x ± 12 Z-gesponnene Fäden p/cm². Vielleicht Leinen.
L.: 18.0; Br. ± 3.2/3.5; D.: ± 0.25 (?). Wahrscheinlich war das Stück dünner. Die genaue Dicke kann jetzt nicht mehr festgestellt werden.

15. P.U.G. 7406. Abb. 17.
Eiserne Lanzenspitze mit Schlitztülle. Stark angegriffen. Blattspitze abgebrochen, Schneiden stark abgebröckelt.
L.: noch 30.8, ursprünglich wohl ± 33.0; Blatt L.: noch ± 19.0, ursprünglich wohl ± 21.0; gr. Br. 3.5 bei D.: ± 0.7.

16. P.U.G. 7407. Abb. 18.
Eisernes Messer. Grösster Teil der Griffangel fehlt. Keine organischen Reste. Ist dem Aussehen nach auf dem Scheiterhaufen gewesen. Stammt also aus einem Brandgrab.
L.: noch ± 10.2; Klinge L.: ± 9.2; gr. Br. ± 1.9 mit Rücken D.: ± 0.4.

17. P.U.G. 7408. Abb. 19.
Eiserne Griffangel eines Gerätes. Darauf Holzreste vom Holzgriff. L.: noch ± 6.75; Querschnitt: ± 0.7 x 0.5 am Bruch bis ± 0.6 x 0.4 auf ± 2 von der Spitze.

18. P.U.G. 7478. Abb. 20.
Knickwandtopf. Glattwandig. Hellbräunlichocker. Einreihige Strichradstempelung auf der Schulter. Zerbrochen, zirka die Hälfte von Rand bis Boden fehlt.
H.: 13.6/14.3; M. Dm.: 11.1/± 11.7; Kn. Dm.: ± 14.8; B. Dm.: ± 6.0.
Inhalt: nicht erhalten.

19. P.U.G., ohne Nummer. Abb. 21.
Mehrere Fragmente und Scherben.
a. Eiförmiger Kochtopf. Rauhwandig, sehr feine Magerung. Blass-orangefarbig mit blaugrauem Kern. Hart gebrannt. Nur Teil des Randes mit anschliessenden Wandteilen.
Gr. H.: noch ± 7.2; M. Dm.: ± 20.2.
b. Knickwandtopf. Rauhwandig, gemagert. Schwach rötlich orangefarbig. Mit Henkelansatz und einreihiger Blockradstempelung auf der Schulter. Ziemlich hart gebrannt. Rand und oberer Teil der Schulter fehlen völlig, nur Fragmente des unteren Teiles erhalten.
H.: max. ± 11.2; Knick H.: ± 8.0 bei Dm.: ± 20.0; B. Dm.: ± 9.5.
c. Randscherben von rauhwandigen Kochtöpfen. Von li. nach re.: Gräulichocker mit blass steinrotem Kern; sandig gemagert.
Rötlichbraun mit blass orangefarbigem Kern; fein gemagert, hart gebrannt.

Orangerot; grob sandig gemagert.
Rötlich bis gräulich blassorange; sehr fein gemagert.
20. Im Besitz des Herrn Versteegh, Leersum. Abb. 22.
Eiförmiger Kochtopf. Rauhwandig, gemagert. Dunkelbraungrau mit Russverfärbung. Zerbrochen, vollständig.
H.: 19.7/22.0; M. Dm.: 21.9/22.9; Wand gr. Dm.: 21.8/22.3; B. Dm.: 8.4/9.0.
Inhalt: Leichenbrand. Fehlt jetzt.
21. Im Besitz des Herrn J.W. Verloop, Groenekan. Abb. 23 und Taf. XIX : 2.
Amphore mit zwei Bandhenkeln. Glattwandig, nicht geglättet. Feine Struktur, feine Magerung. Dunkelbraungrau.
H.: 23.4/23.7; M. Dm.: 11.6/12.0; Hals Dm.: 9.4/10.2; gr. Br. mit Henkeln: 17.7; gr. Br.: 17.7/17.8; B. Dm.: ± 9.0.
Inhalt: Leichenbrand.
Der Eigentümer gestattete nicht, dass die Skelettreste berührt wurden, noch dass der Inhalt aus dem Topf geschüttet wurde. Eventuelle Gegenstände im Leichenbrand konnten also nicht bearbeitet werden. Der Eigentümer ist Wünschelrutengänger und will herausgefunden haben, dass der Leichenbrand von einem weiblichen Individuum stammt.
22. Im Musem Flehite, Amersfoort. Abb. 24 und Taf. XX : 3.
1935 in der Fundamentgrube an der Ostecke des Hauses Rijksstraatweg 155, Gem. Leersum, in einer Tiefe von 60 cm gefunden.
Fusschale. Glattwandig, geglättet. Handgeformt. Vereinzelt grobe Magerungsstückchen. Braungrau. Zerbrochen, Teil des Randes fehlt.
H.: ± 12.3/13.5; M. Dm.: ± 19.0; Knick Dm.: ± 20.0; Fuss Dm.: ± 7.2.
Inhalt: Leichenbrand. Darin Ring, hergestellt aus einer Knochenscheibe. Verbrannt, dadurch verformt und beschädigt. Dm.: ± 2.0; H.: ± 0.5.
23. Im Besitz des Herrn H. van Hees, Leersum. Abb. 25.
Von Herrn Van Hees 1955 beim Graben eines Loches in seinem Garten, Bentincklaan 10, in einer Tiefe von zirka 50 cm gefunden.
Eiförmiger Kochtopf. Ziemlich glattwandig, nicht geglättet. Keine sichtbare Magerung, Ton wie bei Knickwandtöpfen. Hellgrau mit dunkelgrauen Stellen und Russansatz. Zerbrochen, mehr als drei Viertel vom Rand und anschliessender Wandung fehlen.
H.: ± 21.7/22.3; M. Dm.: ± 21.6; gr. Dm.: 24.7/25.4; B. Dm.: 11.4/11.8.
Inhalt: Leichenbrand.
24. Im Besitz des Herrn Helmink, Leersum. Abb. 26.
Dieses Stück ist, wie alle weiteren bis Nr. 46, 1961 bei Kanalisationsarbeiten gefunden.
Weitmundiger, eiförmiger Kochtopf. Rauhwandig, feine Magerung mit einzelnen, gröberen Teilen. Grau bis ockerig grau. Zerbrochen, einige Randscherben fehlen.
H.: 20.4/21.4; M. Dm.: ± 22.0/24.0; Wand gr. Dm.: 20.9/22.4; B. Dm.: ± 11.0/11.2.
Inhalt: Leichenbrand.
25. Im Besitz des Herrn Reusink, Leersum. Abb. 27.
Kleiner, weitmundiger, eiförmiger Kochtopf. Rauhwandig, sandig gemagert. Ockerfarbig mit nach oben zunehmenden Russansatz.
H.: 9.1/9.5; M. Dm.: ± 11.4; Wand gr. Dm.: 10.7/10.8; B. Dm.: ± 5.2.
Inhalt: Leichenbrand, bei der Bergung beseitigt worden.
26. In Besitz des Herrn Blankensteyn, Leersum. Abb. 28.
e. Unterer Teil eines eiförmigen Kochtopfes. Rauhwandig, sandig gemagert. Ocker bis blassocker.
H.: noch max. ± 17.0; gr. Dm.: 20.2/20.8; B. Dm.: ± 9.0.
Inhalt: Leichenbrand, Trockengewicht ± 600 Gramm.
Darauf zwei Pfeilspitzen und dazwischen ein Bronzebeschläg und ein bronzenes Riemenzungenfragment. Alle Gegenstände zeigen Spuren von Brandeinwirkung.
a. Eiserne Pfeilspitze mit Schlitztülle und länglich dreieckigem Blatt.
L.: 10.9; Blatt L.: 6.3; gr. Br.: ± 2.1.
b. Eiserne Pfeilspitze mit Schlitztülle und lanzettförmigen Blatt.
L.: 10.1; Blatt L.: ± 6.0; gr. Br.: 1.8 bis 1.9.
c. Fragment einer bronzenen Riemenzunge mit Punktkreisverzierung. Drei Bronzenieten, von denen eine fehlt, befestigten den Riemen mit Hilfe von einem Bronzeblech und kleinen flachen Bronzeringen auf der Rückseite. Vom Brand angegriffen und verformt. Spitze fehlt.
L. in flachem Zustande: noch ± 6.0; gr. Br.: ± 3.0; bei Bruch Br. 1.6; D.: ± 0.1.
d. Bronzenes Beschläg mit vier Bronzenieten. Davon fehlt eine. Niete durch kleine Bronzebleche auf der Rückseite gehalten.
Punktkreisverzierung. Vom Brand leicht verformt.
± 3.3 x 2.1; D.: ± 0.1.
27. Im Besitz des Herrn N. van Vulpen, Leersum. Abb. 29 und Taf. XX : 1.
In dessen Garten gefunden worden.
Gedrungener eiförmiger Kochtopf. Rauhwandig, sandig gemagert. Blassocker bis ocker, mit Russansatz. Zerbrochen, vollständig.
H.: 18.2/19.2; M. Dm.: 20.9/21.6; gr. Dm.: 21.6/21.7; B. Dm.: 10.5/10.8.
Inhalt. Leichenbrand, Trockengewicht ± 820 Gramm. Darin einzelne, kleine, unkenntliche Bronzereste.
28. Wie Nr. 27. Abb. 30 und Taf. XIX : 3.
Tonflasche. Rauhwandig, stark sandig gemagert. Ockergelb bis ockergrau. Oberteil fehlt. Wahrscheinlich zum Einfüllen des Leichenbrandes absichtlich abgebrochen worden.
H.: noch max. ± 23.2 bei Dm.: ± 6.0; gr. Dm.: 17.3/17.7; B. Dm.: 7.8/8.1.
Folgende Nummern sind im Besitz des Herrn H.J. Reusink, Leersum.
29. Abb. 31 und Taf. XX : 2.
Kugeliger Kochtopf mit schwacher 'Deckelrinne'. Rauhwandig, sandig gemagert. Braungrau mit Russansatz. Zerbrochen, zwei Rand- und zwei Wandscherben fehlen.
H.: 14.2/14.8; M. Dm.: 13.5/13.8; gr. Dm.: 16.5/17.0; B. Dm.: 7.2/8.2.
Inhalt: Leichenbrand.
30. Abb. 32, 3 Scherben li.
Drei, nicht anschliessende, schwarz gefirnisste Scherben mit dünner Weissmalerei. Von Spruchbecher(n?).

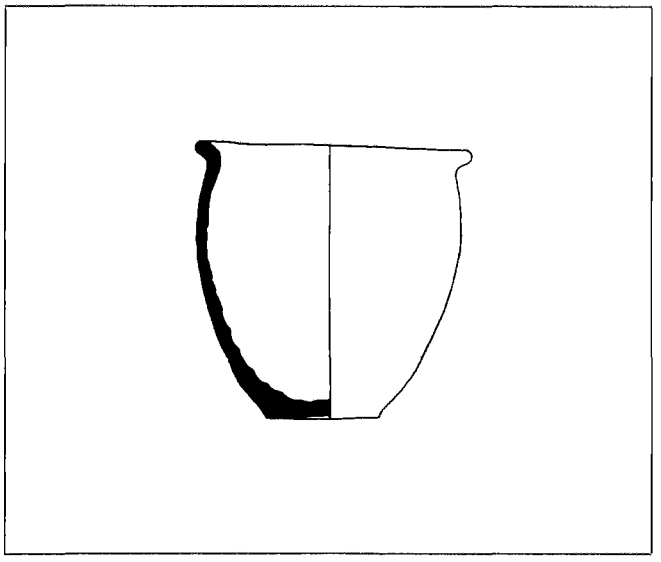


Abb. 12 Leersum, Nr. 10

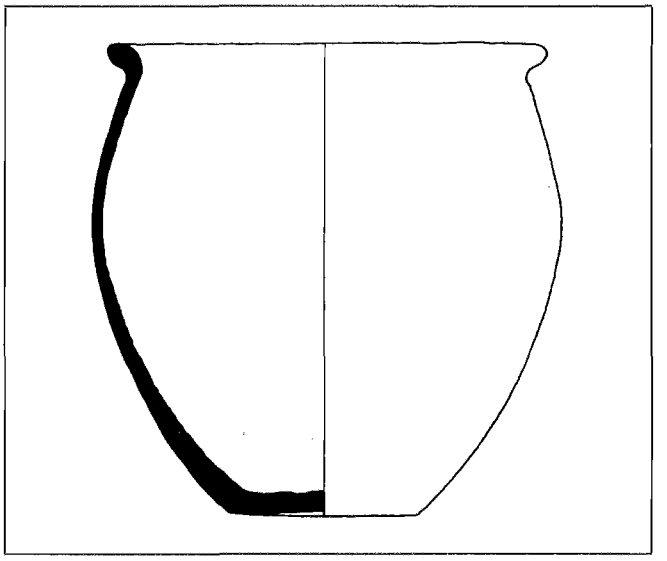


Abb. 13 Leersum, Nr. 11

31. Abb. 33.
Bodenteil eines Knickwandtopfes. Glattwandig, grau.
H.: noch max. ± 9.6 bei Dm.: ± 20.0; B. Dm.: ± 6.0.
Inhalt: Leichenbrand.
32. Abb. 32 re. unten.
Etwa die Hälfte eines Tonbecherbodens. Glattwandig. Braun bis backsteinrot, schwarz und grau.
H.: noch max.: ± 2.85 bei Dm.: ± 5.5; B. Dm.: 5.1.
33. Abb. 32 re. Mitte.
Randscherbe und zwei Wandscherben eines Kochtopfes. Rauhwandig, mässig gemagert. Orangerot.
34. Abb. 32 re. oben.
Randfragment und Wandscherbe eines Kochtopfes. Rauhwandig, fein gemagert. Ziemlich weich. Grau mit Russansatz.
M. Dm.: ± 16.4.
35. Abb. 34.
Bodenteil eines Kochtopfes. Rauhwandig, Orangerot mit Russansatz.
Inhalt: Reste vom Leichenbrand.
36. Abb. 35.
Grosses Fragment von Rand und oberer Wandung eines eiförmigen Kochtopfes. Rauhwandig, sandig gemagert. Gräulichocker mit Russansatz.
H.: noch max. ± 16.0; M. Dm. ± 22.6; gr. Dm.: ± 24.0.
37. Abb. 36.
Eiförmiger Kochtopf. Rauhwandig, mässig gemagert. Fahlbacksteinrot mit starkem Russansatz. Nur unterer Teil und einige Scherben vom oberen Teil erhalten.
H.: noch max.: ± 17.0 bei Dm.: ± 15.0; gr. Dm.: ± 16.6; B. Dm.: ± 8.6.
38. Abb 37.
Schulterscherbe eines Knickwandtopfes. Glattwandig, grau. Mit einreihiger Blockradstempelung.
39. Abb. 38.
Randscherbe eines Kochtopfes. Ziemlich glattwandig, nicht geglättet, feine Magerung. Ziemlich weich. Ockergraubraun.
M. Dm. ± 28.0.
40. Abb. 39.
Knickwandtopf. Glattwandig, dunkelgrau. Oberfläche splitterartig. Fragmente, kein Anschluss in Knickhöhe.
H. rekonstruiert: ± 10.2; M. Dm.: ± 9.3; Kn. Dm.: ± 12.7; B. Dm.: ± 6.0.
41. Abb. 40.
Knickwandtopf. Glattwandig, dunkelgrau. Unterer Teil und nicht anschliessende Scherbe in Knickhöhe.
H.: noch max. 4.7 bei Dm.: ± 14.0; B. Dm.: 6.6/7.0.
42. Abb. 41.
Knickwandtopf. Glattwandig, strichweise geglättet. Dunkelgrau mit einer ockerfarbigen Stelle. Einreihige Blockradstempelung auf der Schulter. Nur Rand-Schulterfragment.
H.: noch max.: ± 7.0 bei max. Dm.: ± 18.6; M. Dm. ± 16.4.
43. Abb. 42.
Knickwandtopf. Glattwandig. Blassockerbraun. Mit einreihiger Strichradstempelung auf der Schulter. Fragment. Rand mit oberem Schulterteil fehlt.
H.: noch max. ± 9.1 bei Dm.: ± 12.3; Kn. Dm.: ± 13.6; B. Dm.: ± 5.7/6.0.
44. Abb. 43.
Knickwandtopf. Glattwandig, feine Magerung. Orangerot mit gräulichen Flecken. Eine Anzahl anschliessender und Einzelscher-

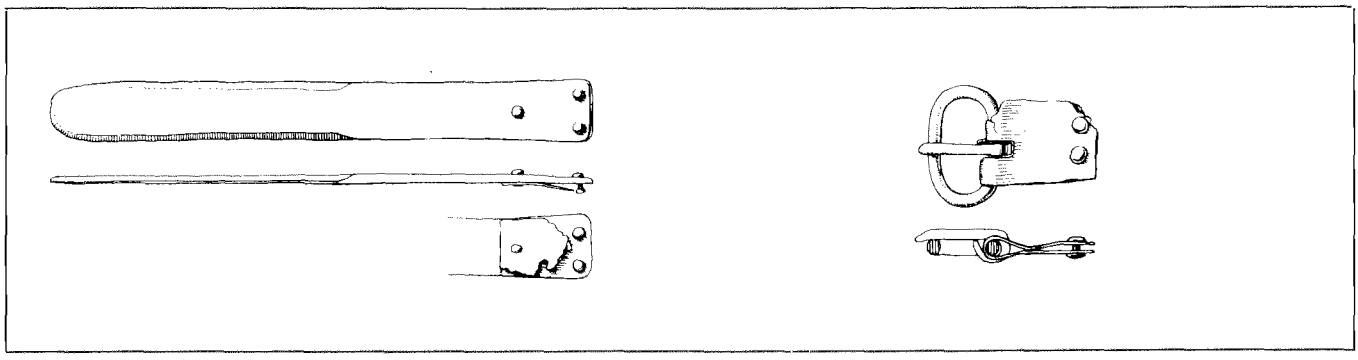


Abb. 14 Leersum, Nr. 12. 1 : 2

Abb. 15 Leersum, Nr. 13. 1 : 2

ben. Bodenteile fehlen völlig. Einreihige Blockradstempelung auf der Schulter.
H.: noch max. ± 14.5; M. Dm.: ± 11.2; Kn. Dm.: ± 18.8; in Bruchhöhe Dm.: ± 16.0.
45. Abb. 44.
Eiserner Kurzsax. Stark angegriffen Griffknopfreste unkenntlich verformt. Auf beiden Seiten der Klinge zwei zum Saxrücken parallele Rillen.
L.: ± 48.5; Klinge L.: 31.6; gr. Br.: 4.7 bei Rücken D.: 0.7/0.8.
Schliesslich die Nummern 46–49, 1931 in der Gegend des 'Baumes' gefunden. Die meisten Scherben zeigen Brandspuren. Bis auf wenige Wandscherben stammen sie von vier Gefässe, von denen nur Randstücke erhalten sind.
46. Abb. 45.
Kugeltopf, Handgeformt. Rauhwandig, gemagert mit Granitgrus, ockerigbraun mit Russverfärbung. Fingereindrücke auf der Innenseite. Fragmente: ± ein Viertel von einem Rand und der Wandung und einige nicht anschliessende Scherben.
H.: noch max. ± 16.0; M. Dm.: ± 18.5; gr. Dm.: ± 24.0.
47. Abb. 46.
Kugeltopf, handgeformt. Jetzt rauhwandig. Farbe variierend von dunkelocker bis orange-blassviolett und mattblau. Oberfläche sehr rissig und mit kleinen Löchern. Fingereindrücke unter der Randinnenseite. Fragmente, im Brand versintert.
H.: noch max. ± 12.5; M. Dm.: zirka 22.0 (oval); gr. Dm.: zirka 26.5 (oval).
48. Abb. 47.
Kugeltopf. Handgeformt. Jetzt blaugrau mit blassorangen bis bräunlichen Flecken. Randstück mit steilem Rand und schwacher Schulter.
L.: ± 8.0. Überwiegend körnig gebrannt, geringes Gewicht.
Max. H.: ± 7.0.
49. Abb. 48.
Kugeltopf, handgemacht. Gemagert mit Granitgrus. Jetzt grau bis bläulichgrau, versintert. Eine Scherbe.
H.: max. ± 4.0; M. Dm.: ± 14.5.
50. Abb. 2: 50.
Skelettgrab. Schädel und mehrere Skelettteile noch erhalten. In Gürtelhöhe lag eine Bronzeschnalle, die später verloren gegangen ist.
51. Abb. 49.
Eiserne Franziska. Oberfläche abgeblättert. Schneide beschädigt. In einer Tiefe von ± 100 cm gefunden. Also wohl aus einem Skelettgrab.
L.: noch 17.5; L. der Schneide: ± 9.2; Rücken H.: ± 5.0; Br.: ± 4.8. Gewicht noch 1023 Gramm.
Zufälligerweise hörte Herr Reusink Anfang 1965 dass in der Scheune des Herrn Van Arnhem, Bentincklaan, ein eisernes Beil hing das bei den Kanalisationsarbeiten 1961 gefunden war. Herr Van Arnhem wollte das Beil zum abpicken von Backsteinen benützen!

WAFFEN

Das einschneidige Kurzschwert 45 (Abb. 44)
Nach der von Böhner[2] vorgeschlagenen Gruppierung, der hier gefolgt wird, gehört der Sax mit einer Länge von 48.5 und grösster Klingenbreite von 4.7 cm zu den Skramasaxen. Diese treten überwiegend am Ende des 6. Jahrhunderts auf. Der Leersumer Sax kann wegen seiner Klingenlänge von 31.5 cm bei einer Breite von 4.7 cm als Breitsax bezeichnet werden.[3] Die Breitsaxe gehören fast ausschliesslich der Stufel IV an, einem Zeitraum von etwa 600–700.
Die Lanzenspitze 15 (Abb. 17)
Die Lanzenspitze kann Böhners Typ B 3 angeschlossen wer-

2 Böhner 1958, I, 130 ff.
3 Böhner 1958, I, 140–3.

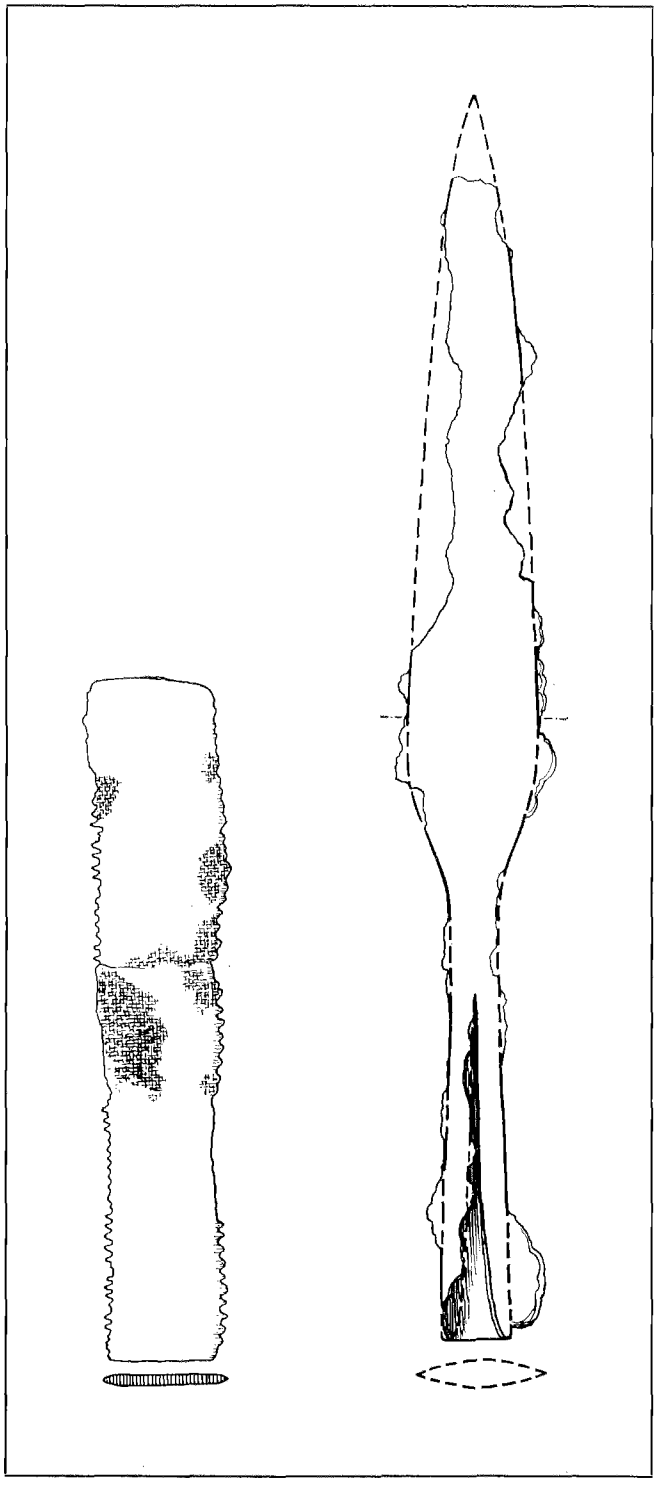


Abb. 16 Leersum, Nr. 14. 1:2

Abb. 17 Leersum, Nr. 15. 1:2

den und rechnet damit zur Stufe IV[4]. Böhner bemerkt jedoch, dass die Blattform länger fortlebt, wie es das Vorkommen bei karolingischen Flügellanzenspitzen zeigt. Im Gegensatz zu Böhners B 3-Typ mit geschlossener Tülle besitzt die Leersumer Lanzenspitze eine Schlitztülle. Meiner Meinung nach ist jedoch in diesem Falle die Blattform ausschlaggebend.

Die Pfeilspitzen 26 A und 26B (Abb. 28)

26A hat in stärkerem Masse die länglich dreieckige Form der Lanzenspitze 15. Man findet sie in Mindelheim[5] und Bülach in Gräbern der zweiten Hälfte des 7. Jahrhunderts. Im Gräberfeld von Göggingen[7] ist dieser Typus in den Gräbern 45, 112, 121 und 185 gefunden worden. Obwohl diese Gräber keine gut datierbaren Beigaben enthielten, können sie auf Grund der für Göggingen herausgearbeiteten horizontalen Stratigraphie in die Mitte des 7. und den Anfang des 8. Jahrhunderts datiert werden.

Es bleibt fraglich, ob nach dem Vorkommen in alamannischen Gräberfeldern in der zweiten Hälfte des 7. Jahrhunderts auf eine gleiche Datierung des in den Niederlanden gefundenen Materials geschlossen werden darf. Auch muss bezweifelt werden, ob dieser Typ ausschliesslich in diese Zeit datiert, da die Form noch später in skandinavischen Gräbern auftritt.

Pfeilspitze 26B ist ein allgemeiner Typ und erlaubt keine engere Datierung.[8]

Die Franziska 51 (Abb. 49)

Die Franziska 51 gleicht am meisten Böhners Franziska B 1 (Stufe III, ± 525–600)[9], und wäre damit vielleicht der früheste bisherige Fund des Gräberfeldes.

SCHMUCK

Schmucksachen traten selten auf. Aus farbigen Glasfragmenten konnten für die Gräber 3 und 8 Perlen erschlossen werden. Vielleicht bildete der Knochenring 22 ein Schmuckzubehör. Das Stück lässt jedoch keine weiteren Schlüsse zu.

4 Böhner 1958, I, 154 und II, Taf. 29: 6 (Eisenach, Grab 43).

5 Werner 1955, Abb. 3: A3 (Grab D 1); Taf. 28: B2 und 3 (Grab 32); Taf. 34: E1 und 2 (Grab 67c).

6 Werner 1953, Grab 59, 71, 82 (?); 100, 110, 123, 126, 129, 223 (?) und 277.

7 Stein 1961, 101; Abb. 4: 7, 8, 9 und 10 (Grab 45); Abb. 7: 8 (Grab 112); Abb. 7: 14 (Grab 121); Abb. 8: 33 (Grab 185).

8 Böhner 1958, I, 163.

9 Böhner 1958, I, 167–77 und II, Taf. 32: 1.

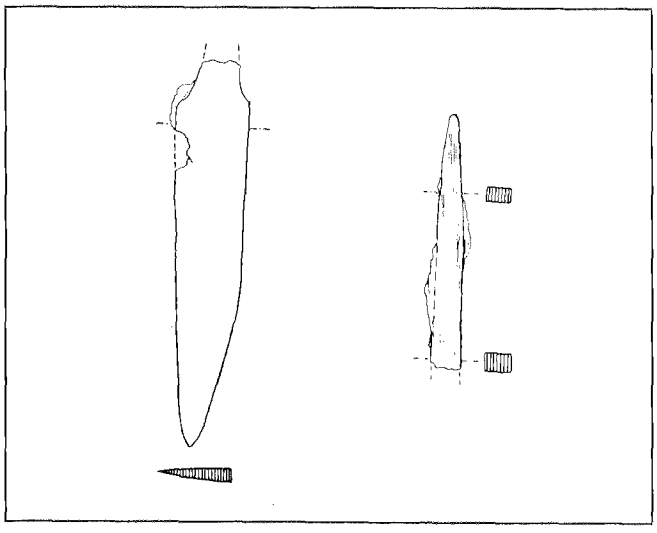


Abb. 18 Leersum, Nr. 16. 1 : 2

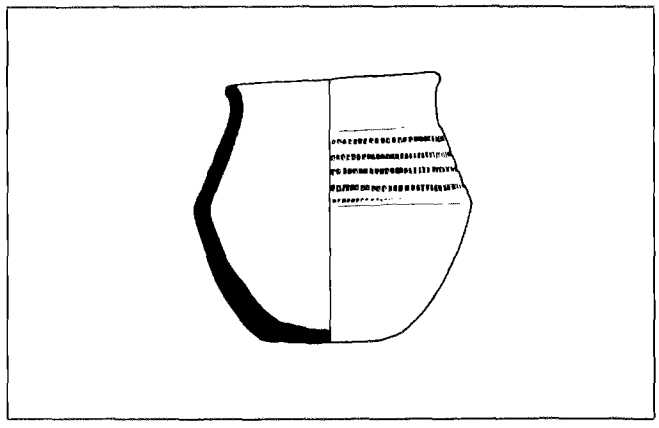


Abb. 20 Leersum, Nr. 18

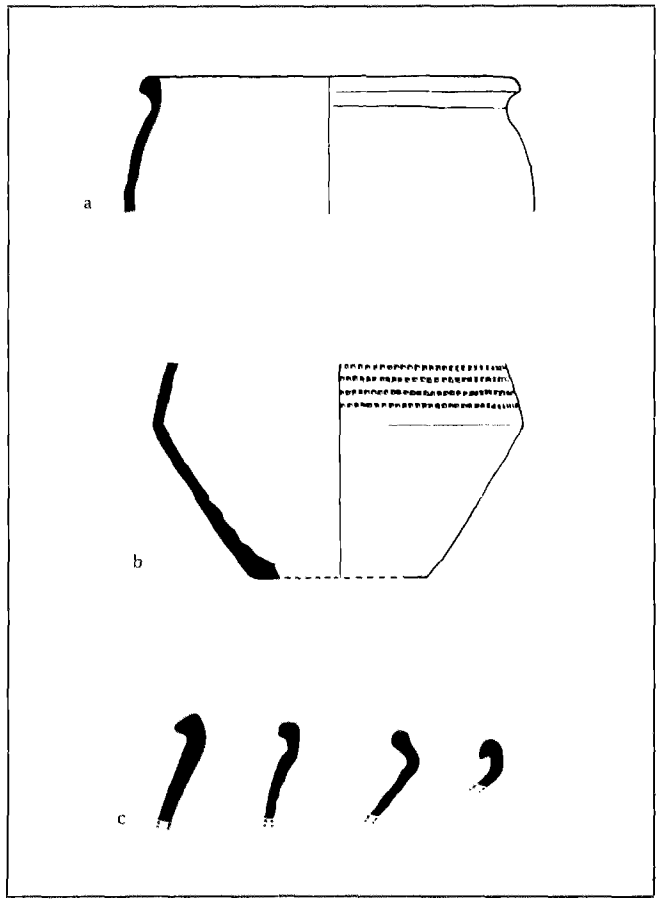


Abb. 21 Leersum, Nr. 19

Abb. 19 Leersum, Nr. 17. 1 : 2

GÜRTELGARNITUREN

Die Schnallen 6 und 13 (Abb. 8, 15 und Taf. XVIII : 4)
Beide sind unverziert und vom selben Typ. 13 ist aus Bronze; 6 besitzt einen eisernen Bügel und Dorn und ein Beschläg aus Bronze. Böhner bildet Schnallen dieses Typs nicht ab. In Behrens 'Merowingerzeit'[10] findet man eine Anzahl aus der früheren Sammlung Fliedner. Leider ist deren Herkunft unbekannt und die Datierung nicht gesichert. In Bülach Grab 18 ist eine Schnalle mit rechteckigem Beschläg gefunden worden.[11] Aus Grab 256 liegen zwei Schnallen mit derartigen, wenn auch nicht ganz rechteckigen Beschlägen von.[12] Dazu kommt ein Exemplar aus Mindelheim.[13] Diese Stücke datieren alle in das 7. Jahrhundert. Das Grab mit eisernem Schnallenbügel und rechteckigem Beschläg aus Hintschingen gehört nach Werner[14] in seine Gruppe V (650–700). In Grab 110 des Maastrichter Gräberfeldes bei der St. Servaaskirche fand sich eine solche Schnalle zusammen mit einer bronzenen axtförmigen Haarnadel des 6. bis 7. Jahrhunderts.[15]

10 Behrens 1947, Abb. 102.
11 Werner 1953, 67, und Taf. III: 19 a und b.
12 Werner 1953, 125, und Taf. IV: 8.
13 Werner 1955, Taf. 42: B 2 (Grab 125).
14 Werner 1935, Taf. 32: 18.
15 Ypey 1955, pl. 55.

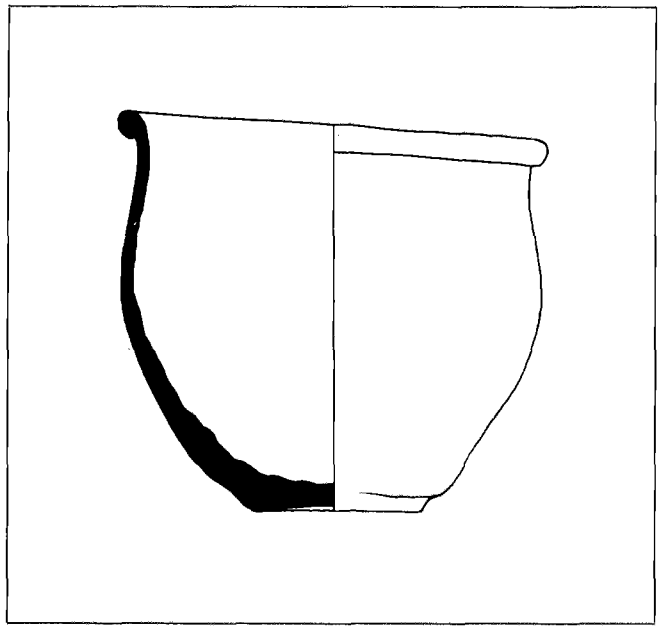


Abb. 22 Leersum, Nr. 20

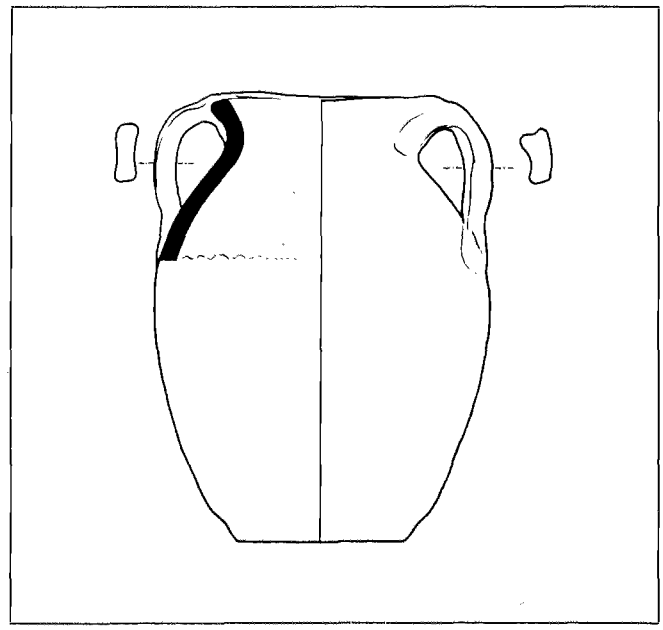


Abb. 23 Leersum, Nr. 21

Im karolingischen Gräberfeld von Godlinze wurde eine solche Schnalle in einem Kugeltopf aus Brandgrab 26 gefunden. Der Kugeltopf ist nicht vor das 8. Jahrhundert zu datieren.[16] Eine späte Datierung liegt auch die Schnalle aus Waffengrab 28 in Göggingen nahe.[17] Das Grab wird in das erste Drittel des 8. Jahrhunderts datiert.

Die Schnallen aus Leersum können also in das 7. und den Anfang des 8. Jahrhunderts datiert werden.

Der Beschläg und die Riemenzunge 26

Die Form des Beschläges ist nicht zeitbestimmend. Auch die Verzierung mit Punktkreisen ist nicht auf eine kürzere Zeitspanne beschränkt. Sie wird im 7. Jahrhundert und auch später viel angewandt.

Die Riemenzunge, deren Spitze fehlt, ist mit Punktkreisen verziert. Die Form des Riemenzungenfragments konnte rekonstruiert werde. Aus Mindelheim stammt eine Riemenzunge dieses Typs aus einem Grab, das in das Ende des 7. Jahrhunderts datiert werden kann.[18] Ein Grab aus Gammertingen mit einer Riemenzunge von ähnlichem Typ, verziert mit Punktkreisen und ornamentierten Dreiecken, wird von Åberg[19] gegen das Ende des 6. Jahrhunderts datiert. Diese Verzierungsart gehört nach Stein jedoch eher in das erste Drittel des 7. Jahrhunderts.[20] Aus Untereching stammt eine Riemenzunge mit einer dem Leersumer Stück entsprechenden Profilierung aber einer einfachen linearen Verzierung am Absatz. Das Grab wird von Werner seiner Gruppe IV oder V zugerechnet, also der Zeit von 600–700.[21] Eine Datierung der Leersumer Riemenzunge und des Beschläges in das 7. Jahrhundert hat also eine grosse Wahrscheinlichkeit für sich.

Die Riemenzunge 12 (Abb. 14, Taf. XIX : 1)

Riemenzunge 12 besteht aus unverzierter Bronze. Der Typ ist eine allgemeine Erscheinung des späten 7. und 8. Jahrhunderts.[22]

16 Van Giffen 1918–20, pl. VIII: 26c (Schnalle) und pl. IV: 26 (Topf).
17 Stein 1961, 96, und Abb. 3: 7.
18 Werner 1955, 18, und Taf. 40: A 13.
19 Åberg 1922, 176, 184–5 und Abb. 266.
20 Stein 1961, 81, 90, Abb. 2: 1a und b.
21 Werner 1935, Taf. 25: C 6.
22 Böhner 1958, I, 195, und II, Taf. 40: 10.

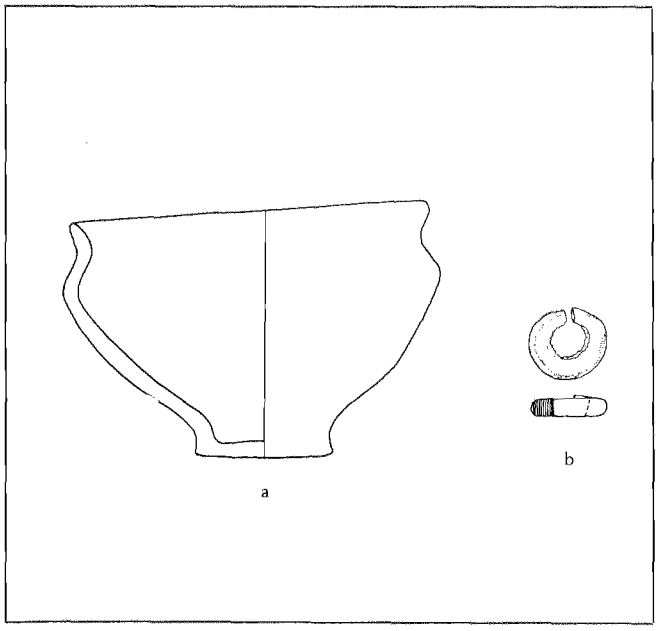


Abb. 24 Leersum, Nr. 22. Schale 1 : 4, Ring 1 : 2

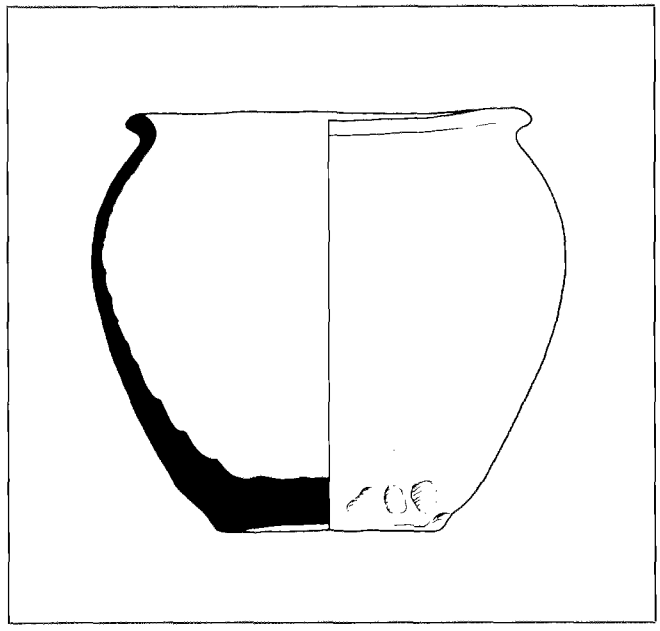


Abb. 25 Leersum, Nr. 23

GERAETE

Die Messer 1, 5 und 6 (Abb. 3, 7 unten und 18)
Von 1 ist nur die Griffangel und 5 ist nur als Bruchstück erhalten. Die Klinge von 16 ist vollständig. Böhner[23] gruppiert die Messer mit gerader oder nur wenig gebogener Schneide und einem kräftig gebogenen oder geknickten Rücken im Trierer Gebiet in die Stufe IV (600–700). Dieser Typ ist auch in Godlinze vertreten und wird von Van Giffen[24] in das 8. Jahrhundert datiert.
Der Spinnwirtel 6 (Abb. 8, Taf. XVIII : 3)
Ein Exemplar mit der gleichen Ornamentik, dessen Herkunft unbekannt ist, wird von Behrens[25] abgebildet und stammt wie die übrigen abgebildeten Stücke aus der Sammlung Heerdt. Verwandte Spinnwirtel sind bei Behrens[26] vertreten. Anhand weiterer Beigaben dieser Gräber können sie in den Anfang des 7. Jahrhunderts datiert werden.

La Baume[27] datiert einen derartigen Spinnwirtel aus Grabhügel 22 in Nebel/Amrum in das Ende des 8. und die erste Hälfte des 9. Jahrhunderts.
Ein mit konzentrischen Kreisen verzierter knöcherner Spinnwirtel stammt aus Grab 91 b in Köln-Müngersdorf, das Werners Gruppe IV (600–650) zugeteilt werden kann.[28]
Ein Spinnwirtel mit ähnlicher Verzierung wie jene des Leersumer Stückes wurde in einem Frauengrab in Friedberg gefunden, das in die Gruppe III (550–600) gehört.[29]
In Dorestad ist eine grosse Anzahl ähnlicher, verzierter Knochenwirtel gefunden worden, darunter bei Holwerda aber kein einziger mit der Verzierung des Leersumer Stückes.[30] Im Museum Flehite zu Amersfoort befindet sich jedoch ein konischer Knochenwirtel aus Dorestad mit einer gleichen Verzierung wie jene des Leersumer Wirtels (Inv. Nr. $D4^3$; gr. Dm.: ± 3.3). Roes[31] nennt diesen, wie auch ein ähnliches Stück im Fries Museum zu Leeuwarden[32], mero-

23 Böhner 1958, I, 215.
24 Van Giffen 1918–20, 76, und pl. VI.
25 Behrens 1947, 38, und Abb. 86.
26 Behrens 1947, Abb. 11: 2 (Schwarzrheindorf, Grab 11) und Abb. 45: 16 (Schwarzrheindorf, Grab 49).
27 La Baume 1952–53, 85.
28 Werner 1935, Taf. 8.
29 Werner 1935, Taf. 3: E 6.
30 Holwerda 1930, 90, afb. 70.
31 Roes 1965, 52–3 und pl. XXI: 155.
32 Roes 1963, 29 und pl. XXXIV: 1 (Dm. 2.3).

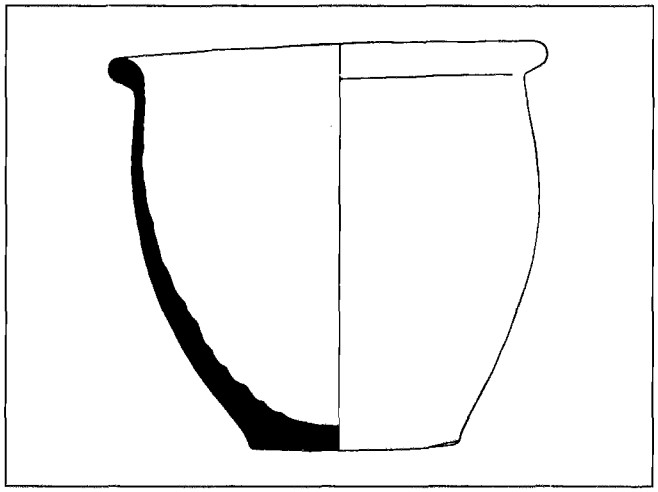


Abb. 26 Leersum, Nr. 24

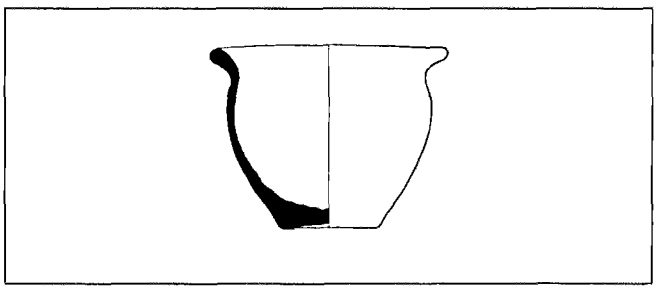


Abb. 27 Leersum, Nr. 25

wingisch. Hübener[33] datiert das Fundmaterial aus Dorestad in seiner Studie über Keramik und Kämme in der Hauptsache in die Zeit von 775 bis nach 850.
Es scheint daher, dass diese ähnlich ornamentierten knöchernen Spinnwirtel von der zweiten Hälfte des 6. bis zur zweiten Hälfte des 9. Jahrhunderts vorkommen.
Verschiedenes 17, 14 (Abb. 19, 16)
Die Griffangel 17 ist für ein Messer zu kräftig und gehört offenbar zu einem Gerät, dessen Funktion aber nicht bestimmt werden kann. Die zweiseitige Säge 14 ist ein seltenes Stück. Holwerda erwähnt eine aus Putten, die von Bezaan vor der offiziellen Grabung gefunden wurde.[34] Die Leersumer Säge ist stark korrodiert und verformt, sodass die ursprüngliche Dicke nicht bestimmt werden konnte. Vielleicht diente das Stück zur Herstellung von Kämmen, um die Kammzinken zu sägen. Eine Datierung kann nicht gegeben werden.

KERAMIK

Die Scherben des Spruchbechers 30 (Abb. 32 li.)
Die drei kleinen Scherben Nr. 30 eines römischen Spruchbechers – falls sie von einem Becher stammen – lassen eine Rekonstruktion der Form nicht zu. Eine genauere Datierung als in das 3. und 4. Jahrhundert scheint mir nicht möglich zu sein. Die Scherben sind nicht im Grabzusammenhang gefunden worden.
Die Fusschale 22 (Abb. 24; Taf. XX : 3)
Eine Sonderstellung nach Fundstelle und in der Datierung nimmt Fusschale 22 ein. Das Formprinzip ist schon in der ausgehenden Latènezeit zu beobachten.[35] In dieser Zeit ist das Profil ziemlich scharf und kantig und erinnert an Metallformen. Nach der Zeitwende ist eine Entwicklung zu weicheren Formen wie Leersum 22 erkennbar. Die frühen Vorläufer dieses Typs findet man in den Trichterschalen vom Ende des 2. Jahrhunderts im Gebiet zwischen Esbjerg und Friesland.[36] Tischler bezeichnet die späteren Serien, die bis in das frühe 5. Jahrhundert reichen, als Schalen von Dingener Typ. Zum engeren Kreis der Hunte-Wesergruppe[37] gehören handgeformte Exemplare aus Lippspringe, die in das Ende des 4. und den Anfang des 5. Jahrhunderts datieren.[38] Obschon das ebenfalls handgeformte Leersumer Stück nigends genau einpasst, scheint es mir eine Abart aus der Zeit um das Ende des 4. bzw. den Anfang des 5. Jahrhunderts zu sein. Besonders des Fusses wegen wäre eine solche Datierung möglich.
Die Knickwandtöpfe 8, 18, 19b, 31, 35, 38, 40, 41, 42, 43 und 44 (Abb. 10, 20, 21, 33, 34, 37, 39–43; Taf. XVIII:1).
Reduzierend gebrannt: 8, 31, 38, 40, 41 und 42.
Oxydierend gebrannt: 18, 19b, 35, 43 und 44.

33 Hübener 1953, 188.
34 Holwerda 1926, CXII, Nr. XXX: 'ijzeren plaatje, aan twee kanten zaagvormig getand'.
35 Von Uslar 1938, 56 ff., Taf. A ff.
36 Tischler 1954, 57.
37 Tischler 1954, 72–5.
38 Tischler 1954, 73 und Abb. 23; Lange 1959, 298–302 und Abb. 1 und 2.

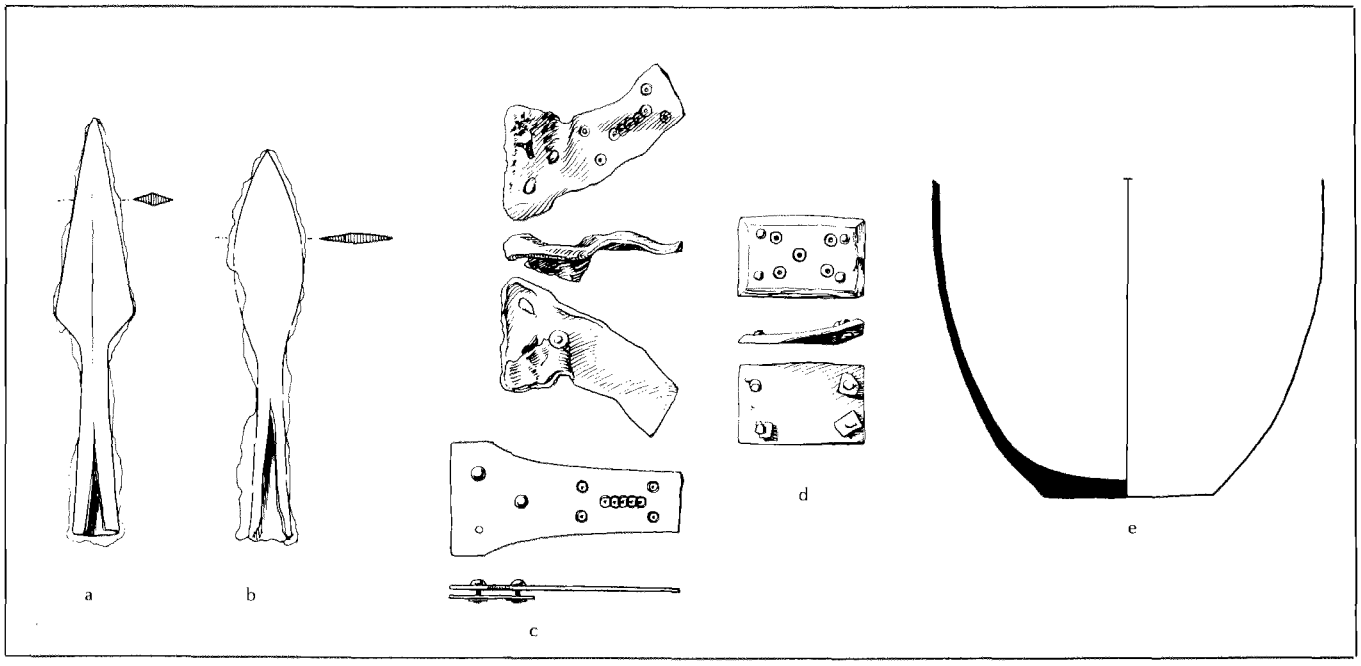


Abb. 28 Leersum, Nr. 26. Topf 1:4, andere Gegenstände 1:1, a-e

Davon sind 31, 35 und 41 Bodenstücke, die für eine Typengliederung nur begrenzt verwertbar sind. 38 ist ein Schulterwandstück mit Blockradstempelung. Vollständig erhalten sind nur 8 und 18. Die beiden Gefässe gleichen sich in den Proportionen über- und unterhalb des Knicks. 8 stimmt mit einem Gefäss aus Zemmer überein, Böhners Typ 3 b, der gegen das Ende der Stufe III, also gegen 600 datiert.[39] Der Typ kommt jedoch hauptsächlich im 7. Jahrhundert vor. 18 gehört zu dem gleichen Typ, rechnet aber als oxydierend gebranntes Gefäss zu Typ C 3[40] und datiert ebenso in das 7. Jahrhundert.

Die anderen Knickwandtöpfe können nicht nach Böhners Typengliederung eingestuft werden.

Knickwandtopf 40 fällt durch das gebauchte Unterteil und den abgesetzten Fuss auf. Der abgesetzte Fuss ist bei einem Knickwandtopf eine aussergewöhnliche Erscheinung, die nur im 7. Jahrhundert auftritt. Das Ausbauchen des Unterteils läuft im vorgeschrittenen 7. Jahrhundert mit der Neigung zur Abrundung der Knickwand parallel. Diese Entwicklung wurde auch bei der Keramik des 7. Jahrhunderts aus dem fränkischen Gräberfeld von Bergeyk (Noord-Brabant), das in den Jahren 1957 und 1959 untersucht wurde, beobachtet. Die Beurteilung der restlichen, fragmentarisch erhaltenen Knickwandtöpfe gibt keinen Anlass zu einer Datierung in das 6. Jahrhundert. Blockradstempelung wie auch oxydierender Brand treten häufig im 7. Jahrhundert auf. Da die Knickwand bei diesen noch nicht abgerundet ist, datieren sie wahrscheinlich in die erste Hälfte oder in die ersten zwei Drittel des 7. Jahrhunderts.

Das Bodenfragment eines Tonbechers 32 (Abb. 32 re. unten)

Fragment 32 ist wahrscheinlich das Bodenstück eines zylindrischen Fussbechers aus dem 7. Jahrhundert.[41] Ein derartiger Becher wurde in Grab 71 des Gräberfeldes im Pandhof der St. Servaaskirche in Maastricht zusammen mit einer Tonschale von Böhners Typ D 17a (Stufe IV) und einem kleinen rauhwandigen Kochtopf des 7. Jahrhunderts aufgedeckt. Ein zweiter Becher (Nr. 122) wurde in diesem Grä-

39 Böhner 1958, I, 41–2 und II, Taf. 2: 1 (Zemmer, Grab 37/4).
40 Böhner 1958, I, 47–8.
41 Böhner 1958, I, 46, und II, Taf. 3: 3.
42 Ypey 1955, pl. 80 (Maastricht 71); De Boone & Ypey 1959, 210 und fig. 24–6.

berfeld ohne Beifunde geborgen.[42] Ein Becher aus Grab 53 in Bergeyk war mit einer Tonflasche, einem Knickwandtopf und einem Tummler aus braunem Glas vergesellschaftet. Dieses Grab kann in die zwei Hälfte des 7. Jahrhunderts datiert werden.

Die Tonflasche 28 (Abb. 30; Taf. XIX : 3)

Die Tonflasche 28 ist nicht vollständig erhalten. Hals und Rand fehlen. Der Typ ist jedoch eindeutig und besitzt zahlreiche Parallelen aus Duisburg.[43] Zu dieser Gruppe gehört auch die gedrungene Tonflasche aus Grab 9 in Walsum, die Stampfuss[44] in die Zeit um 750 datiert. Stampfuss legt den Beginn des Gräberfeldes in die Zeit um 700 und das Ende um 775.[45] Tischler[46] ist jedoch der Meinung, dass das Gräberfeld von Walsum bis zur Mitte des 8. Jahrhunderts belegt wird. Er daitert die Tonflasche Stampfuss, Walsum Taf. 20 in das frühe bis mittlere 8. Jahrhundert.[47] Nach Steeger[48] datieren eine Tonflasche und eine Amphore aus Krefeld-Gellep später als in das 7. Jahrhundert. Eine Datierung der Leersumer Tonflasche in die erste Hälfte und vielleicht sogar um die Mitte des 8. Jahrhunderts ist anzunehmen.

Die Amphore 21 (Abb. 23; Taf. XIX : 2)

Die Amphore 21 ist ausser in Krefeld-Gellep[49] auch in Walsum Grab 12 vertreten[50], und stimmt der Form nach mit anderen Walsumer Gefässen überein, die von Stampfuss in die Zeit um 750 datiert und von Tischler zu seiner Gruppe 2, II gerechnet werden. Sie gehören also sicher in die erste Hälfte des 8. Jahrhunderts. Der Eigentümer der Leersumer Amphore erlaubte unter keinen Umständen, dass der Leichenbrand untersucht wurde. Das ist sehr bedauerlich, da sich möglicherweise im Leichenbrand Gegenstände befinden, die die Datierung stützen könnten.

Der eiförmige Topf mit drei Bandhenkeln 5 (Abb. 7; Taf. XVIII : 2)

Das grosse Gefäss mit drei Bandhenkeln hat Parallelen in den Gräbern 19, 26, 32 und 37 von Walsum.[51] Davon datiert Stampfuss Grab 37 noch in das erste Viertel des 8. Jahrhunderts, Grab 26 in den Übergang vom ersten zum zweiten Viertel, Grab 32 in das zweite Viertel des 8. Jahrhunderts und Grab 19 um 750.

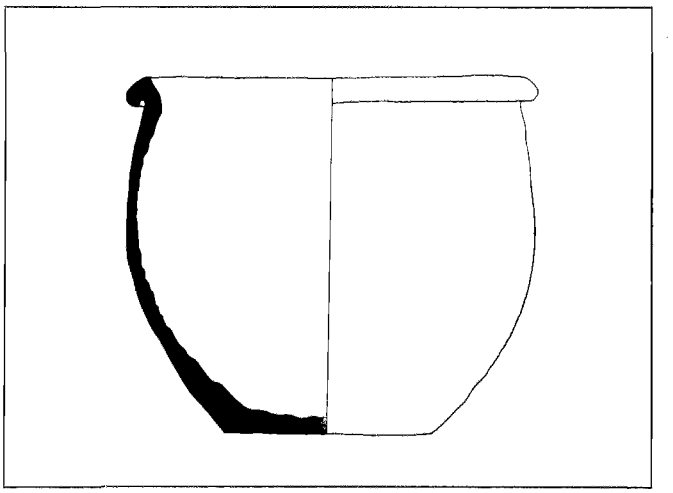


Abb. 29 Leersum, Nr. 27

Tischler[52] rechnet diese Gefässe in seiner Gruppe I die stets in das ausgehende 7. Jahrhundert einzuordnen ist und vielleicht noch in das erste Jahrzehnt des 8. Jahrhunderts reicht.

Auch in dem Gräberfeld von Rhenen wurden dreihenkelige Töpfe gefunden.[52] Der Topf aus Grab 51[53] hat umlaufende Wellenbänder, jener aus Grab 102[54] umlaufende Rillen, wie es auch bei dem Gefäss aus Walsum Grab 37 der Fall ist. Die beiden Gefässe aus Rhenen stammen aus Brandgräbern. In Grab 102 war der Rest einer vom Brand verformten Riemenzunge mit einer den Rand begleitenden, eingepunzten Punktreihe. Diese Riemenzunge kann dem 7. Jahrhundert wie auch späterer Zeit angehören. Ein weiterer Beifund aus Grab 102 ist ein eisernes Beil, das seine nächste Parallel in dem spätrömischen (!) Beil aus Morscheid findet.[55] Leider fehlen über Grab 102 von Rhenen Grabungsnotizen; es ist daher sehr gut möglich, dass das Beil nicht zu dem Inventar des Brandgrabes 102 gehört.

43 Stampfuss 1939, Taf. 20: 2, 3 und 5.
44 Stampfuss 1939, 51 und Taf. 5: 14.
45 Stampfuss 1939, 57.
46 Tischler 1955, 18.
47 Tischler 1952, 196 (Gruppe 2, II).
48 Steeger 1937, Taf. 18.
49 Steeger 1939, Taf. 18.
50 Stampfuss 1939, Taf. 6: 8.
51 Stampfuss 1939, 57 und Taf. 7: 9 (Grab 19); 56 und Taf. 10: 7 (Grab 26); 57 und Taf. 12: 11 (Grab 32); 56 und Taf. 14: 1 (Grab 37).
52 Tischler 1952, 196, 199, Abb. 2, 3 und 5.
53 Ypey 1955, pl. 3.
54 Ypey 1955, pl. 32 li.
55 Böhner 1958, I, 165, Abb. 8a.

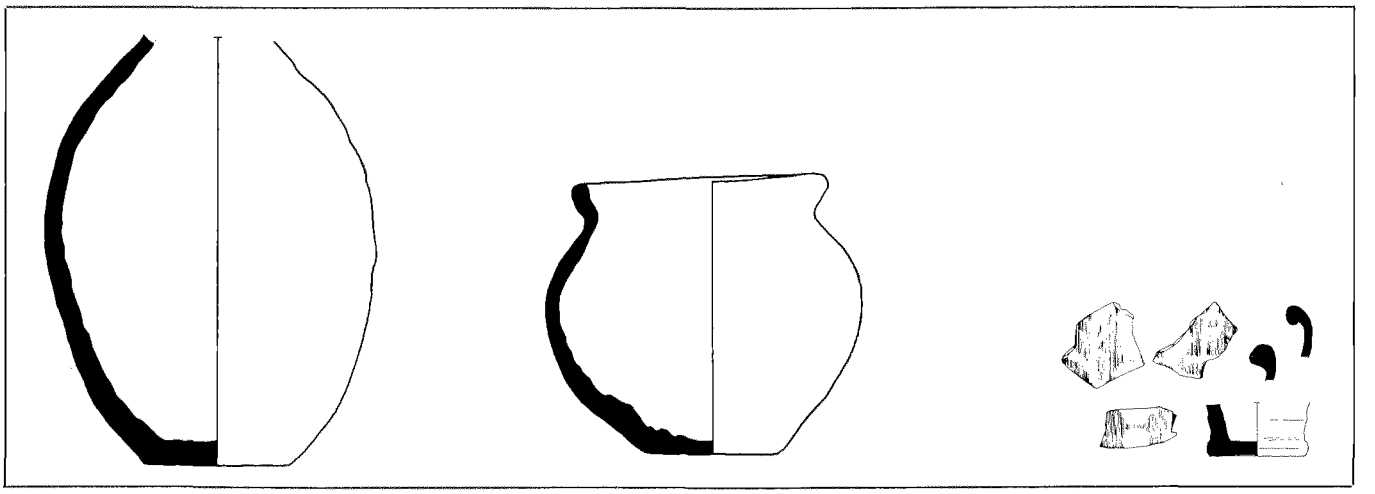


Abb. 30 Leersum, Nr. 28

Abb. 31 Leersum, Nr. 29

Abb. 32 Leersum. Links Nr. 30 (drei Scherben), rechts von oben nach unten Nr. 34, 33 und 32

Die dreihenkeligen Gefässe aus Rhenen, Leersum, Walsum usw. datieren offenbar in die Zeit um 700.

Die Kochtöpfe 1, 3, 6, 7, 9, 10, 20, 23, 24, 25, 26, 27, 29, 37 (Abb. 3, 5, 6, 8, 9, 11, 12, 22, 25–9, 31 und 36; Taf. XX:1 und 2).

Die Tonflasche sowie der zwei- und dreihenkelige Topf gehören zur spätfränkischen Keramik. Dazu gehört auch eine ziemlich variierende Gruppe rauhwandiger Kochtöpfe, die schlank oder gedrungen, ei- oder tonnenförmig, mit gerundeter oder leicht geknickter Wand sein können. Der Rand ist meistens nach aussen gebogen, manchmal umgeschlagen, mit wechselndem Profil. Obschon im allgemeinen rauhwandig, sind manche doch ziemlich glatt gedreht. Die meisten zeigen mehr oder weniger starken Russansatz.

Von den Leersumer Kochtöpfen besitzen 2, 6, 10, 20, 23 und 25 einen gewölbten Boden; 4, 26, 27, 29 und 37 einen flachen Boden; 1, 3, 7, 9 und 24 einen gerundeten linsenförmigen Boden. Hübener[56] stellt fest, dass die Linsenböden nicht vor dem 8. Jahrhundert auftreten. Die linsenförmigen Böden der Leersumer Gefässe sind aber nicht zugeschnitten. In Haithabu, wo aber andere Verhältnisse herrschen, kommen die gedrehten Linsenböden viel später vor. Es ist m.E. nicht sicher, ob der Linsenboden der Leersumer Gefässe in das 8. Jahrhundert gehört. Gefäss 1, das einen ausgeprägten Linsenboden besitzt, gleicht der Form nach einem Gefäss mit gewölbtem Boden (23).

Das Gräberfeld Rhenen hat mit seinen ca. 330 Brandgräbern viele den Leersumer ähnliche Kochtöpfe erbracht. Linsenböden, zumal die zugeschnittenen, sind aber selten, oder bilden eine Ausnahme. Die Beigaben sinds spärlich, und was den Brand überstanden hat, ist in vielen Fällen nicht mehr erkennbar oder für eine Datierung brauchbar. In Rhenen ist festgestellt worden, dass Brandgräber die Skelettgräber des 7. Jahrhunderts überlagern. Da auf diese Weise zumindest ein 'terminus post quem' gegeben ist, kann das Auftreten der Brandgräber ungefähr in die Zeit nach Mitte des 7. Jahrhunderts datiert werden. Weitere Schlüsse bleiben jedoch der Bearbeitung des gesamten Fundmaterials vorbehalten.

Bis jetzt ist nur ein Grab der Rhenener Brandgräber (Brandgrab 55) durch eine Beigabe gut datiert. Es handelt sich um eine bronzene, stabförmige Riemenzunge, die nach Grab 51 von Hohenfels Böhners Stufe IV angehört.[57] Das Grab von Hohenfels wird durch eine Pressblechfibel Typ E 4 datiert. Eine gleiche Riemenzunge wurde auch in Bergeyk Grab 11 gefunden. Sie lag in Gürtelhöhe mit einer Bronzeschnalle mit festem Beschläg zusammen, für die ich keine Parallelen gefunden habe. Die Gräber dieser Gräberreihe datieren,

56 Hübener 1959, 83–4 und 117–20.

57 Böhner 1958, I, 195–6, und II, Taf. 44: 2.

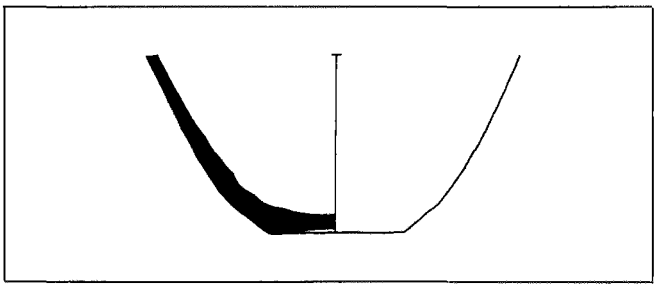


Abb. 33 Leersum, Nr. 31

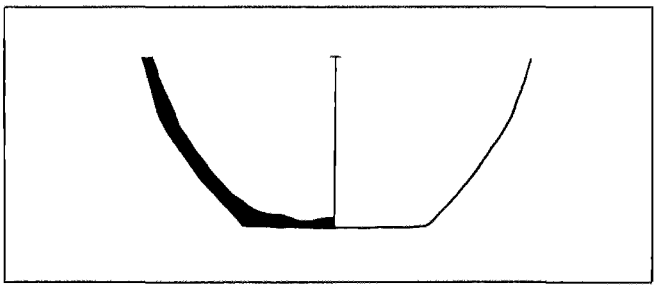


Abb. 34 Leersum, Nr. 35

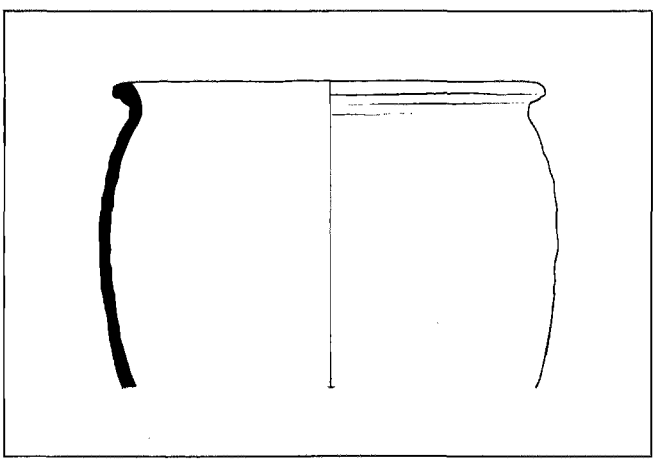


Abb. 35 Leersum, Nr. 36

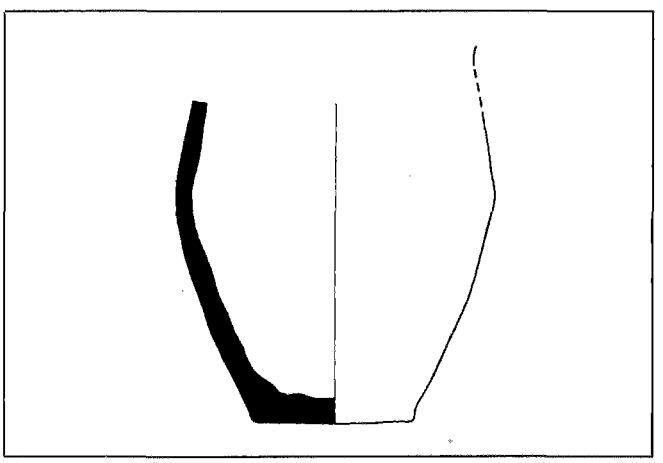


Abb. 36 Leersum, Nr. 37

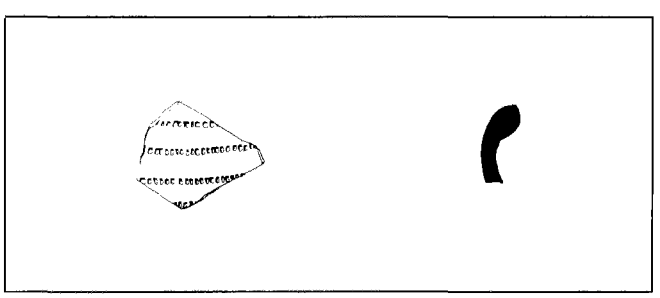


Abb. 37 Leersum, Nr. 38

Abb. 38 Leersum, Nr. 39

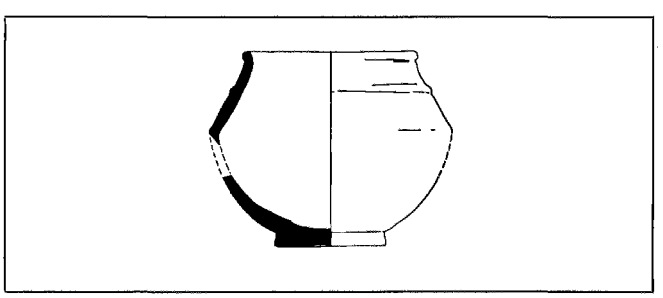


Abb. 39 Leersum, Nr. 40

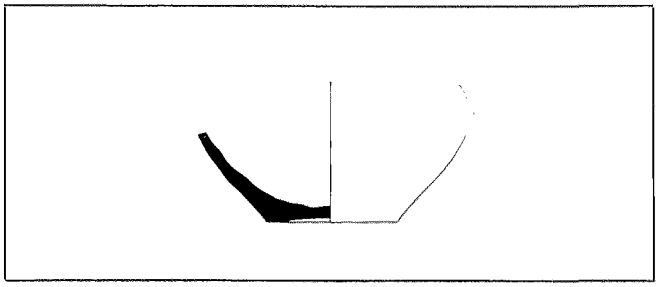


Abb. 40 Leersum, Nr. 41

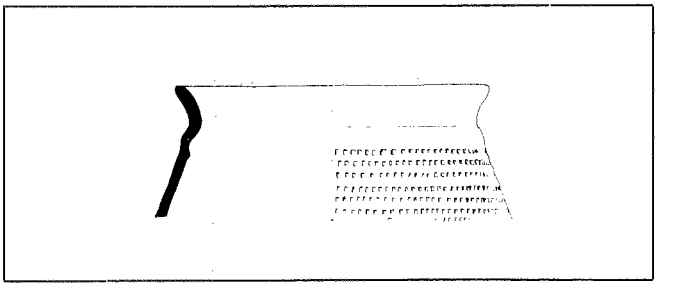


Abb. 41 Leersum, Nr. 42

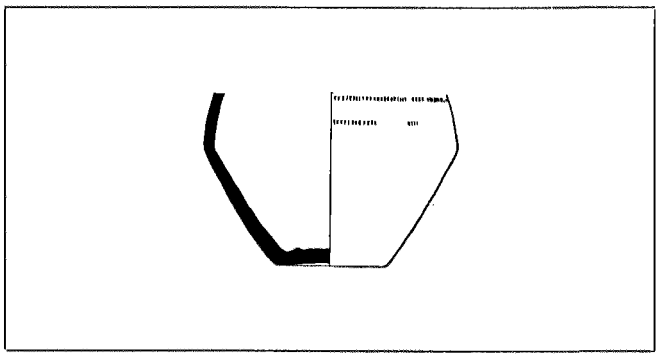


Abb. 42 Leersum, Nr. 43

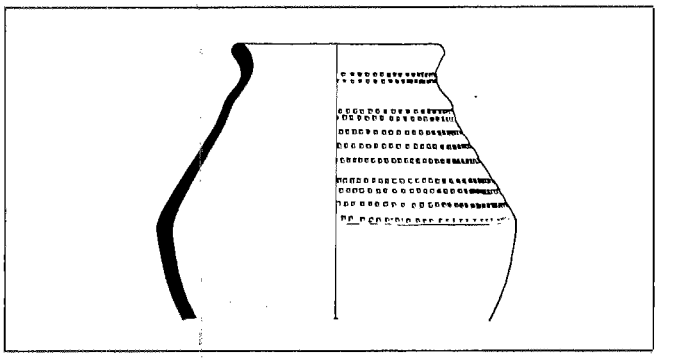


Abb. 43 Leersum, Nr. 44

soweit jetzt beurteilt werden kann, in die zweite Hälfte des 7. Jahrhunderts. Ulbert datiert ähnliche Riemenzungen in die Zeit um 700 oder etwas danach.[58] Das Gefäss aus Brandgrab 55 in Rhenen kann also in das späte 7. oder frühe 8. Jahrhundert datiert werden. Es besitzt einen gedrehten linsenförmigen Boden und ist etwas tonnenförmiger als das Gefäss Leersum 20.

Den Leersummer Gefässen vergleichbare Ware ist auch in Walsum gefunden worden.[59] Die genannten Gräber werden von Stampfuss in das dritte Viertel des 8. Jahrhunderts datiert. Diese Formen bilden die nächsten Parallelen zu den Leersumer Gefässen. Einzelne Formen, die oben angegebenen Abbildungen nicht entsprechen, sind Kannentypen aus Walsum vergleichbar, so Leersum 4 mit Walsum Taf. 7: 8; Leersum 2 mit Walsum Taf. 8: 5; Taf. 16: 1; Taf. 17: 2.

Leersum 29 ist eine gedrungene Variante dieser Form. In Bergeyk Grab 53 ist dieser Typ mit Becher und Tonflasche vergesellschaftet.[60] Leersum 25 kommt auch in Rhenen und Bergeyk vor und datiert hier in das 7. Jahrhundert. Im Gräberfeld Pandhof St. Servaas in Maastricht wurde dieser Typ in Grab 71 zusammen mit Becher und Schale der Form Böhner D 17 a gefunden.[61]

Zusammenfassend kann die Gruppe der rauhwandigen Töpfe von Leersum in das 7. Jahrhundert datiert werden. Es

58 Dannheimer & Ulbert 1956, 32, Taf. 2: 2 und Taf. 10: A 2.

59 Stampfuss 1939, 56–8, und Taf. 6: 9 (Grab 10), 7: 3 (Grab 3), 7: 4 (Grab 14), 8: 11 (Grab 20), 10: 2 (Grab 21), 16: 11 und 17: 4.

60 De Boon & Ypey 1959, bzw. fig. 26 und 20.

61 Böhner 1958, I, 57 (17a: Stufe IV), II, Taf. 6: 10 (Mesenich, Grabfund 1896).

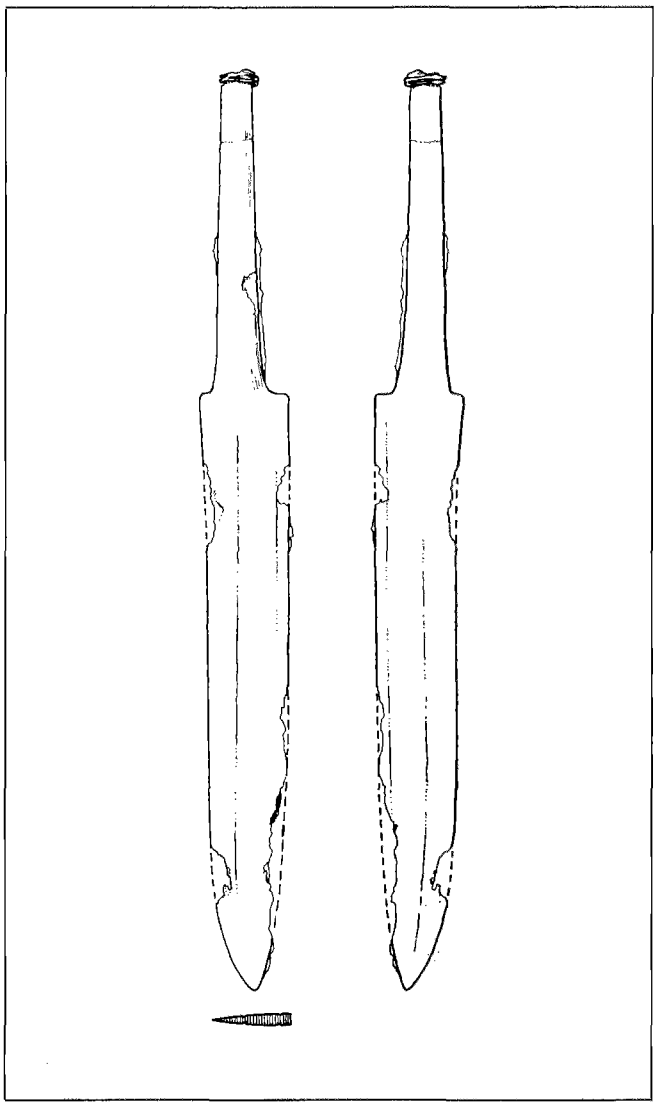


Abb. 44 Leersum, Nr. 45

ist anzunehmen, dass die meisten Formen noch bis in das 8. Jahrhundert weiterlaufen. Diese Datierung wird noch gestützt durch das Vorkommen von Töpfen dieser Gattung in Tischlers Gruppe I.[62]

Die Kugeltopfscherben 46–49 (Abb. 45–8)

In der Nähe des 'Baumes' sind Rand- und anschliessende Wandscherben gefunden worden, die zu etwa vier Gefässen gehören (46–49). Nicht alle Scherben schlossen an, und es ist anzunehmen, dass sie schon als Scherben in den Boden gekommen sind. Ein Zusammhang mit dem Gräberfeld kann nicht nachgewiesen werden.

Die vier Fragmente sind Ränder von Kugeltöpfen die z.B. in Walsum noch nicht auftreten. Dagegen sind sie in Godlinze vertreten.[63] Leersum 48 könnte noch zur Hessens-Schortens-Keramik gerechnet werden, die in des späte 7. und 8. Jahrhundert datiert werd.[64]

Hübener[65] datiert die Kugeltöpfe von Godlinze in das 8.–9. Jahrhundert und stellt fest, dass die Kugeltöpfe nicht vor dem 8. Jahrhundert auftreten. Ihr Vorkommen reicht vielleicht bis in das 12. Jahrhundert. Die Leersumer Fragmenten gehören wahrscheinlich dem 8. Jahrhundert an, und die Vergesellschaftung mit 48 legt es nahe, sie nicht viel später als um 800 zu datieren.

Neben den beschriebenen Gegenständen ist noch eine Reihe hauptsächlich rauhwandiger Wand- und Bodenscherben gefunden worden. Die Heranziehung dieses Materials könnte aber das Bild des Gräberfeldes weder ergänzen noch verdeutlichen.

Zusammenfassung

Insgesamt sind ca. 50 Gräber aufgedeckt worden, die in der Hauptsache aus dem 7. Jahrhundert und der ersten Hälfte des 8. Jahrhunderts stammen.

Es sind Brandbestattungen bis auf drei sichere Skelettgräber: 45, 50 und 51. Einzelfunde, die auch auf Skelettgräber deuten könnten, sind die Riemenzunge 12, die Schnalle 13, die Lanzenspitze 15 und die Säge 14. Davon sind 12 und 15 gut datierbar; sie gehören ebenfalls dem 7./8. Jahrhundert an.

Aller Anschein nach ist das Leersumer Gräberfeld gemischt-belegt gewesen. Zwischen den Funden aus Brand- und Körpergräbern ist kein auffallender Zeitunterschied zu beobachten.

62 Tischler 1952, 199, Abb. 2: 2, 4 und 6.
63 Van Giffen 1918–20, 75 und pl. IV.
64 Tischler 1954, 79 ff., Abb. 28–32; La Baume 1953, 111 ff., Taf. 8–10, 12–6, 21, 22, 24–6, 28–31.
65 Hübener 1959, 85 und 87.

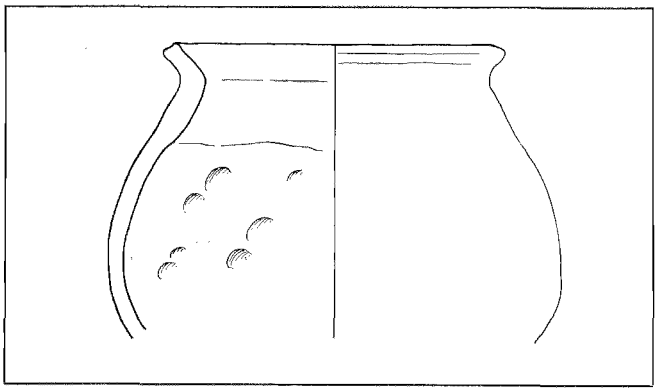


Abb. 45 Leersum, Nr. 46

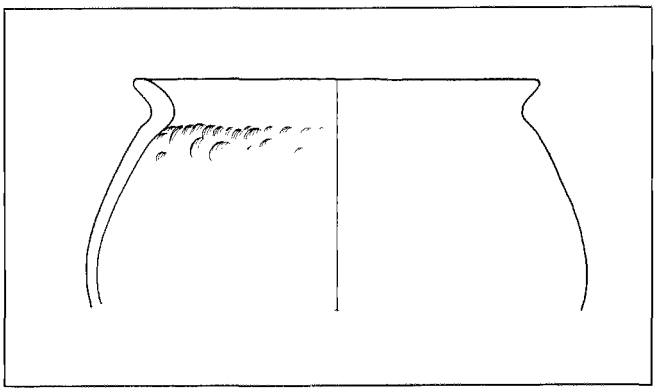


Abb. 46 Leersum, Nr. 47

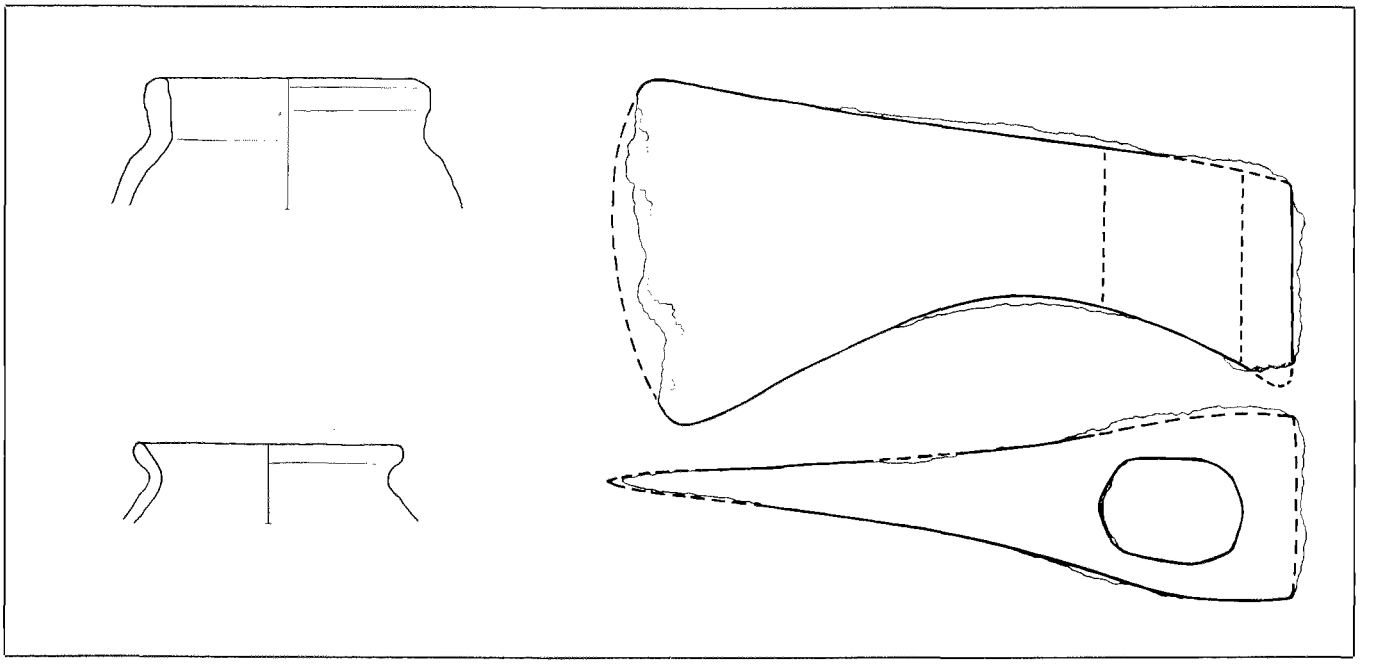


Abb. 47 Leersum, Nr. 48

Abb. 48 Leersum, Nr. 49

Abb. 49 Leersum, Nr. 51

Die relativ geringe Zahl der Körperbestattungen ist wahrscheinlich aus ihrer tieferen Lage zu erklären. Er ist möglich dass noch einige im Boden stecken. Die Zahl der jetzt bekannten Beisetzungen ist also für die Grösse des Gräberfeldes nicht massgebend. Auch über die Ausdehnung des Gräberfeldes liegen noch keine sichere Angaben vor.
Zu Grab 22 erhebt sich die Frage ob es zum selben Gräberfeld als die Beisetzungen des 7. und 8. Jahrhunderts gehört. Der Beginn des Gräberfeldes läge dann um 400, die Belegung wäre mit Skelettgräbern fortgesetzt worden und die Schlussphase bildete wieder Brandgräbern. Aus der Zeit zwischen etwa 400 und 500 fehlt jedoch jeder Fund.
Es bleiben viele Fragen, die nur durch eine systematische Untersuchung beantwortet werden können.[66]

66 Herzlicher Dank gebührt Fräulein Cand. phil. S. Reisner, München, für ihre Bereitwilligkeit, das Manuskript durchzusehen.

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A. BRUIJN

Een middeleeuwse pottenbakkersoven te Nieuwenhagen, Limburg

In de eerste helft van mei 1965 werd door de firma H.J. Silvertant bij graafwerkzaamheden ten behoeve van de woningbouw in Nieuwenhagen (Zuid-Limburg) de restanten aangesneden van een pottenbakkerij. De gemeentelijke autoriteiten van Nieuwenhagen wendden zich tot drs. L.E.M.A. van Hommerich, gemeente-archivaris te Heerlen en conservator van het Gemeentemuseum aldaar.
Na een oriënterend bezoek ter plaatse berichtte drs. Van Hommerich de vondst van een vermoedelijk vroege middeleeuwse oven aan de R.O.B. te Amersfoort.
Bij de aanvang van het onderzoek op 12 mei door schrijver dezes werd de conclusie van de heer Van Hommerich geheel bevestigd. De talrijk aanwezige aardewerkscherven toonden grote overeenkomst met de vroegste produkten uit Schinveld.[1]
Dank zij de prettige en effectieve samenwerking van bovengenoemde instanties en personen kon een kort onderzoek ingesteld worden, dat op 26 mei werd afgesloten. De familie J.H. Reumkes stelde ons bereidwillig opslagruimte ter beschikking.

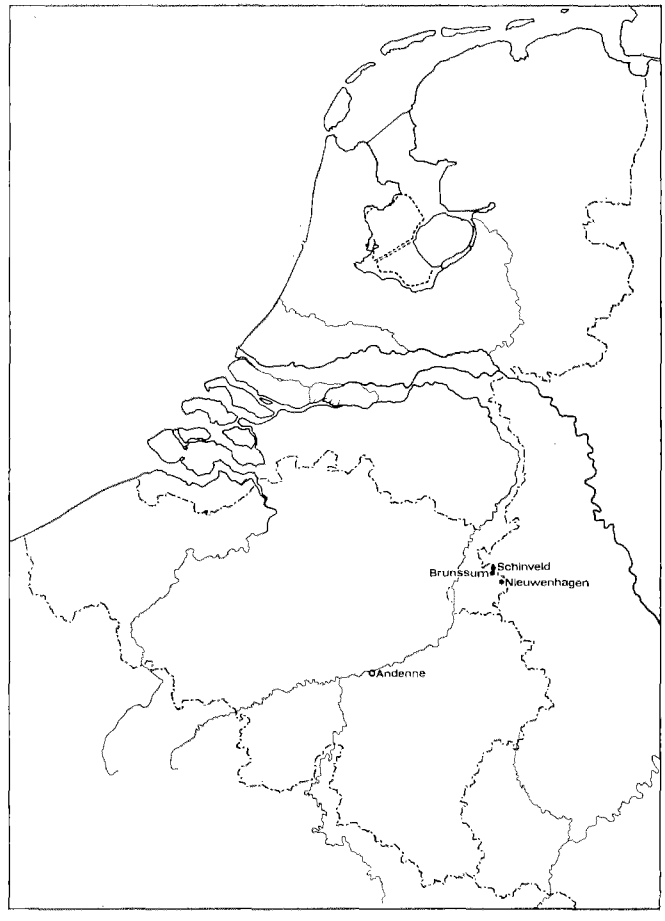

Fig. 1. Situatiekaart

VONDSTOMSTANDIGHEDEN

De vindplaats was gelegen op een flauwe terreinhoogte even ten noorden van de Heereweg op een perceel, genaamd 'Vaechshof'.
Terreinhoogte ca. 164 m + N.A.P.
De aanwezigheid van een oude beek of waterloop in de directe omgeving werd niet vastgesteld en moet ook, gezien de situatie, onwaarschijnlijk geacht worden.
Het feitelijke opgravingsobject had ruwweg een ovale vorm van ca. 4 bij 2½ meter en was vrijwel noord-zuid gericht. De zuidelijke helft van dit ovaal was machinaal weggegraven,

1 Zie Bruijn 1960–1 en 1964.

waarbij gelukkig de diepst gelegen bodemsporen onaangeroerd waren gebleven.
De noordelijke wand van de ruim 2 meter diepe bouwput toonde een welhaast compleet profiel van het object.

HET ONDERZOEK

Het kleine object te Nieuwenhagen, dat uitsluitend uit vondsten en bodemsporen bestond, bood geen ruimte voor het tewerkstellen van enige arbeiders.
Het graafwerk, documenteren en verzamelen geschiedde door ondergetekende in samenwerking met de heer H.F. Wijnman, technisch hoofdassistent bij de R.O.B. te Amersfoort. Gedurende enige middagen werden wij bijgestaan door de heer J.K. Gielen, assistent bij het Gemeentemuseum te Heerlen.
In verband met de bouwwerkzaamheden was het wenselijk zo spoedig mogelijk de bouwput vrij te maken. Dit werd bereikt door de putwand ter plaatse systematisch achteruit te zetten, zodat wij al verzamelend en tekenend steeds dieper in het object doordrongen en daarbij spoedig de bouwput achter ons lieten.
In totaal werden 8 profielen getekend, waarvan de plaats en hoogte ten opzichte van elkaar nauwkeurig werden vastgelegd. Tezamen vormden zij een gegeven dat voldoende was om een goede driedimensionale voorstelling te kunnen maken van hetgeen wij gevonden hadden.
De gevolgde werkwijze mocht in Nieuwenhagen voor de hand liggen, het is toch geenszins zo dat wij door de omstandigheden gedwongen waren te graven op een minder gewenste manier.
Reeds in 1959 bij het onderzoek van een ovencomplex te Brunssum leerden wij de vertikale aanpak van de scherven-lagen kennen als een veilige methode van werken, die wij sedertdien met succes hebben toegepast bij alle opgravingen te Brunssum en Schinveld.
Ware het niet dat de bouwput een groot deel van de oven had doen verdwijnen, wij zouden zelfs zeer ingenomen zijn geweest met zijn bestaan, aangezien het resterende deel van het te onderzoeken object bijzonder gemakkelijk toegankelijk was geworden.
Op bodemniveau van de bouwput bevond zich de vloer van de bakruimte van een oven die kennelijk in de bestaande löss was uitgegraven tot een diepte van ruim 2 meter beneden het tegenwoordige maaiveld. Aangezien aan de oppervlakte in het geheel geen scherven te vinden waren en het terrein ter plaatse reeds vele malen was geploegd of gespit moet het oppervlak ten tijde van de pottenbakkerij tenminste omtrent een halve meter hoger gelegen hebben. Aan de noordzijde van de ovale bakruimte bevond zich een opmerkelijk steil uitgegraven werkkuil, die grotendeels als stookruimte dienst heeft gedaan. Uit de acht ter plaatse opgemeten profielen kon met weinig moeite een ideaal plattegrond samengesteld worden (fig. 2a).
Een eveneens uit deze tekeningen vervaardigd lengteprofiel langs de middellijn van de oven en de stookkuil toont duidelijk het grote diepteverschil aan noord- en zuidzijde van de plattegrondtekening, die als een projectie op een horizontaal vlak beschouwd moet worden. In de werkkuil werden twee vrij diepe kleinere kuilen aangetroffen die ten opzichte van de lengte-as van oven en werkkuil schuin buitenwaarts de diepte ingegraven waren. Deze beide kuilen hebben niet gelijktijdig dienst gedaan, doch behoren bij afzonderlijke fasen van het bestaan van de oven, die tenminste éénmaal werd gerestaureerd (fig. 2a, profiel A). In dit geval betekent dat, dat de pottenbakker zijn ovenruim wat heeft bijgestoken, aangezien de oven in de natuurlijke bodem was 'uitgehold'. De vroegste van beide kuilen bevatte veel aardewerk. Op de vloer van de oven werd een ± 25 cm dik pakket van een welhaast zwarte substantie aangetroffen. Het hoofdbestanddeel van deze massa was houtskool, voornamelijk in korrel- en poedervorm. Daartussen echter kwamen bandjes voor van hoogstens enige centimeters dikte. Zij bleken te bestaan uit fijnkorrelig, gesinterd materiaal dat eveneens op het oppervlak van het aardewerk werd aangetroffen; bovendien bevatten zij veel schilfers aardewerk, die van het oppervlak van de potten waren gesprongen. Deze laagjes verraden dan ook dat in de oven minstens vijf maal is gebakken. De werkkuil bleek geheel gevuld te zijn met aardewerkscherven en al dan niet roodgebrande lösss. Het vervolg in zuidelijke richting van de reeds oplopende lijn van de puinvulling in de werkkuil is een belangrijk gegeven geweest, dat helaas bij het graven van de bouwput verloren is gegaan.

OVENTYPE EN BAKPROCEDE

De ter beschikking staande gegevens zijn voldoende om aan te tonen dat wij in Nieuwenhagen een voor ons land nieuw oventype gevonden hebben (afb. 3b). De tenminste enige generaties latere ovens van Brunssum en Schinveld[2] bezaten een duidelijk afzonderlijke bak- en stookruimte (afb. 3c). Vanuit het stookruim voerden twee, door een zware dam

2 Bruijn 1959, 173–9, Abb. 41.

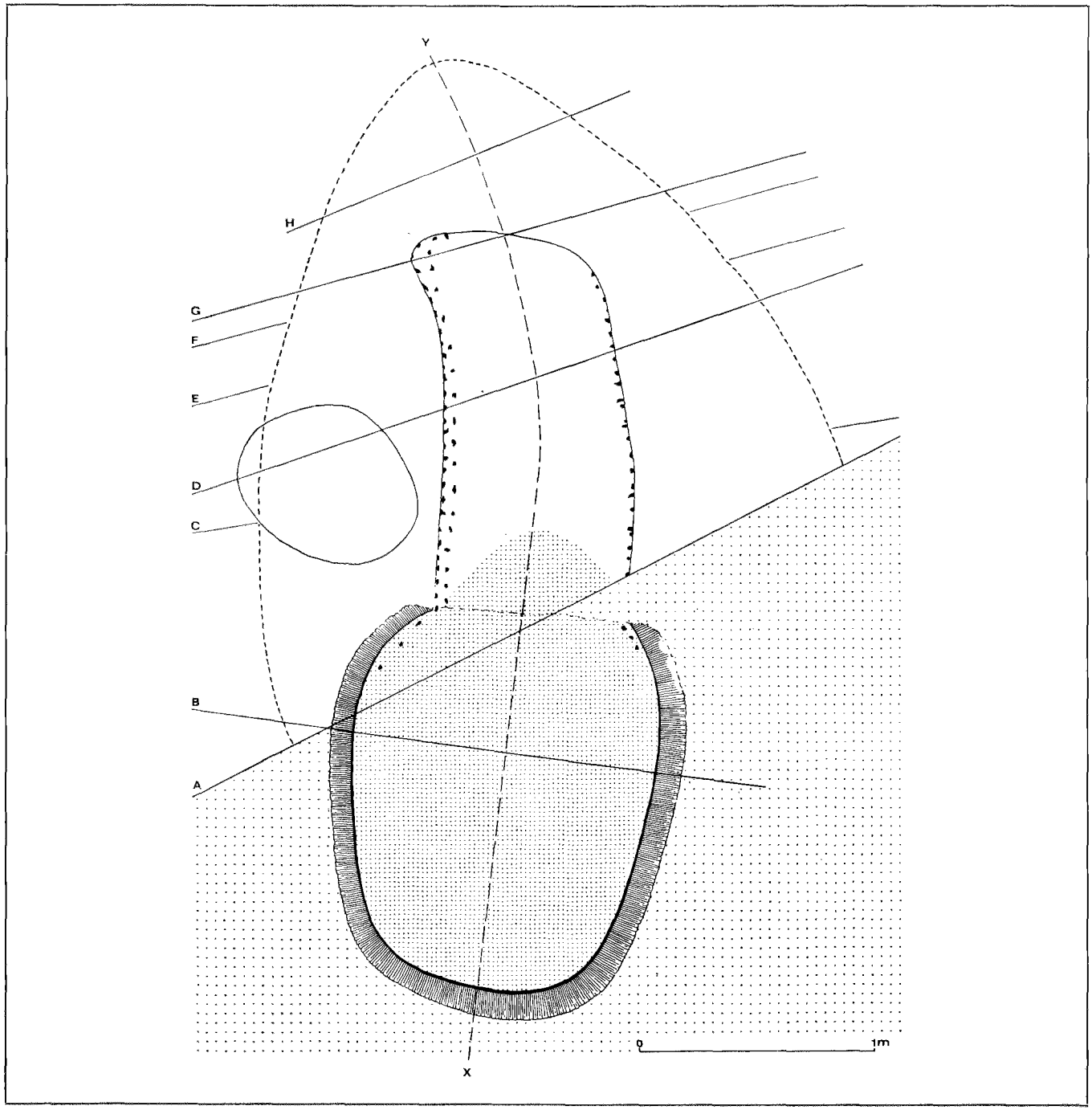

Fig. 2a. Plattegrond oven

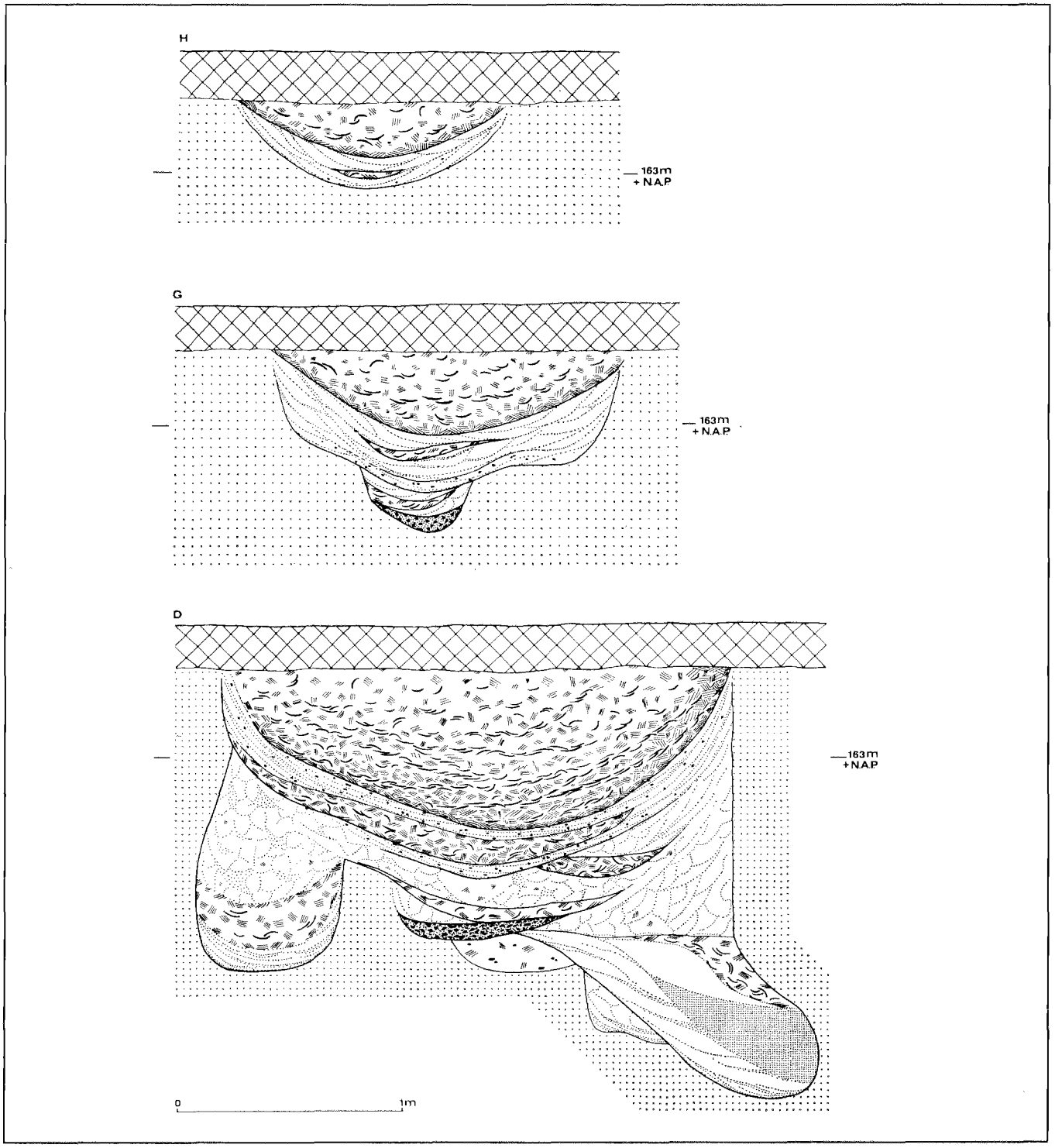

Fig. 2b. Profielen oven

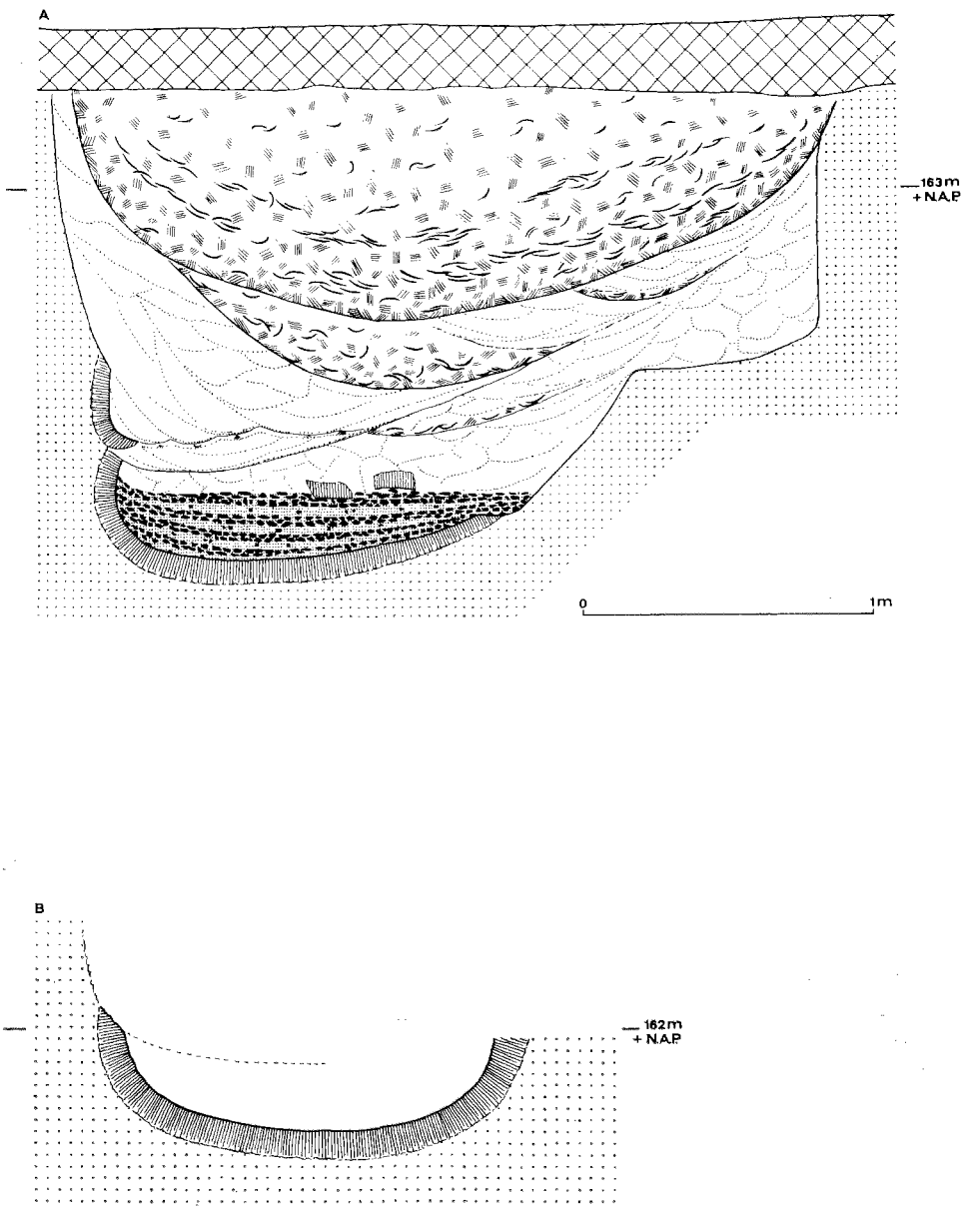

Fig. 2c. Profielen oven

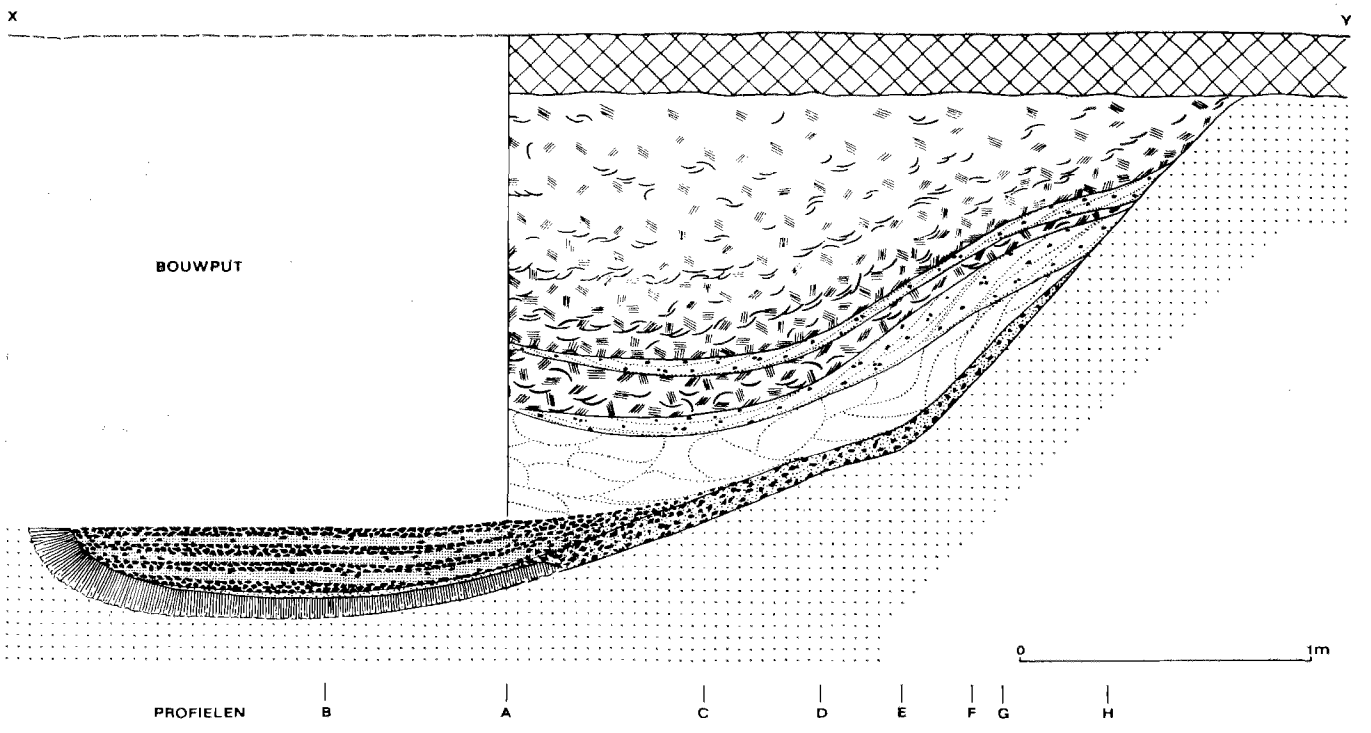

Fig. 2d. Profiel oven

gescheiden trekkanalen naar het ± 60 cm hoger gelegen stookruim, waarvan de bakvloer gelegen was omtrent het niveau van het omringende loopvlak. De middendam is zo breed, dat zij in het bakruim een plateau vormt, waarop de te bakken potten geplaatst konden worden. Een grote ondiepe werkkuil lag voor de mond van het stookruim, terwijl het bakruim, de ovenkoepel, geheel bovengronds was gebouwd. De bovenzijde van de ovenmond lag nauwelijks beneden het maaiveld. Het oventype, de z.g. liggende oven, schijnt in de twaalfde en dertiende eeuw in het gehele Rijnland de gebruikelijke vorm te zijn. De oven van Nieuwenhagen wijkt belangrijk af van het geschetste type en moet omtrent een eeuw ouder zijn.

Aangezien de aardewerkvormen van Nieuwenhagen eveneens te Schinveld worden aangetroffen en wel in periode A rond 1100[3] komt het ons waarschijnlijk voor, dat de oven van Nieuwenhagen als een voorloper van de twaalfde-eeuwse ovens van Brunssum en Schinveld beschouwd mag worden.

Over de ontwikkeling van het oventype in de vroege Middeleeuwen is bijzonder weinig bekend. In het algemeen wordt, wellicht wat al te voortvarend, de conclusie getrokken dat de 'liggende' middeleeuwse oven zich heeft ontwikkeld uit het 'staande' Romeinse type afb. 3a). De plattegrondtekeningen van een Romeinse en een middeleeuwse oven vertonen dan ook dikwijls misleidend kleine verschillen. Uitgaande van de overeenkomst in beide, zou men verwachten dat het principe nagenoeg hetzelfde is. De middendam in een Romeinse oven heeft echter vóór alles de functie het zware rooster te ondersteunen. Wij berekenden het gewicht van een 25 cm dik rooster voor een oven met een bakruimdiameter van 1.80 meter op ruim 900 kg. Tijdens het bouwen van de oven woog de klei van het rooster in natte toestand ongeveer 18 % meer, terwijl tijdens het bakken het gewicht van de potten de totale last opvoert tot omtrent 1000 kg. Het feit dat de perforatie van het rooster ter plaatse

3 Bruijn 1960–1 en 1964.

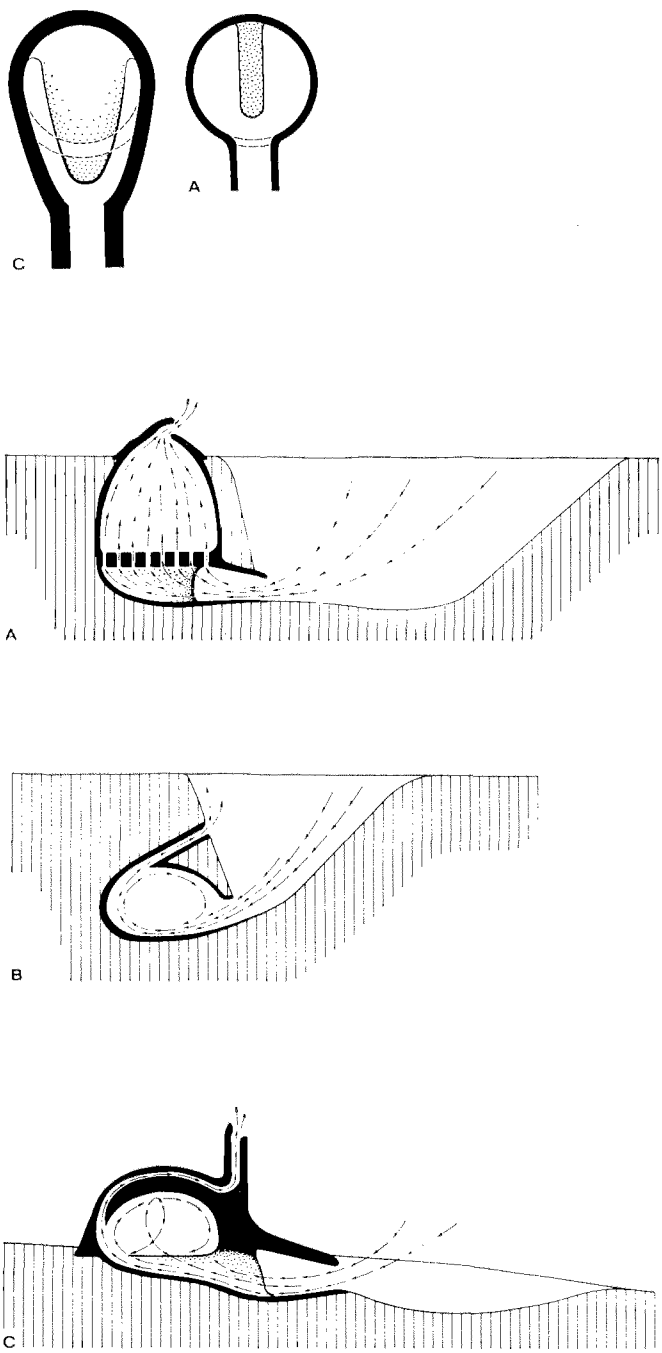

Fig. 3. Ovens A t/m C

van de ondersteuning soms schuin door de dam naar het stookruim is geboord (Heerlen 1964 niet gepubliceerd) vormt een aanwijzing dat de dam, die om bouwtechnische redenen niet gemist kon worden, voor de gewenste hittegeleiding eerder als een beletsel dan als een voordeel werd beschouwd. Bij kleinere Romeinse ovens is de dam dan ook vervangen door een massieve zuil die het rooster in het centrum ondersteunt, doch als vlamverdeler nauwelijks waarde heeft. In het hoogste punt van de regelmatig verlopende ovenkoepel, dus midden boven het bakruim, bevindt zich een aftrekgat, waarop geen schoorsteen geplaatst is doch slechts een bouwsel dat doet denken aan een vertikaal gehalveerde bijenkorf. De open zijde hiervan is naar dezelfde kant gericht als de stookopening van de oven.

Een bij Nijmegen gevonden Romeins aardewerk model van een pottenbakkersoven, bewaard in Rijksmuseum G.M. Kam, toont duidelijk deze constructie. Globaal mag men aannemen dat dit oventype geschikt is voor het bakken op temperaturen niet hoger dan 1000° C.

Het zware rooster vermindert het nuttig effect van de opgewekte hitte, naar schatting van hedendaagse warmte-technici met 200 à 250° C. Dit houdt in, dat de Romeinse pottenbakkers, zelfs al zouden zij dezelfde temperaturen gestookt hebben als de ruim duizend jaar later werkende steengoedbakkers, toch een poreus produkt verkregen zouden hebben, zoals wij dat uit hun nalatenschap kennen. Romeinse scherven hebben, al naar hun aard, een wateropneemvermogen dat overeenkomt met 20 tot 30% van hun eigen gewicht. De nadelen van deze poreusheid werden bestreden door het toepassen van bepaalde oppervlaktebehandelingen als spoelen met of dompelen in engobes van verschillende kwaliteit al naar de functie van het produkt; men denke aan de witte, inwendig grauwbruine kruiken, het zgn. groen 'geverniste' aardewerk(een reducerend gebakken ijzeren gobe) en terra sigillata (de fijnste fractie van een geheel verslibde klei). Maken wij de sprong naar de twaalfde eeuw, dan valt aanstonds op, dat dan niet met engobes wordt gewerkt en dat de produkten als regel bij een temperatuur van ruim 1000° C zijn gebakken. Daar wij een vergelijking willen trekken tussen de techniek van de Romeinse en de middeleeuwse pottenbakkers blijven hier de bijna zwarte kogelpotten van het kleinbedrijf buiten beschouwing; zij zijn wel karakteristiek voor de middeleeuwen, doch vertegenwoordigen niet het technisch kunnen van die tijd. In het algemeen is de poreusheid van het aardewerk gehalveerd ten opzichte van die van de Romeinse produkten en schommelt om ± 15%.

In de dertiende eeuw is het wateropneemvermogen van het produkt opnieuw gehalveerd en bedraagt 6 à 7% van het gewicht van het aardewerk.

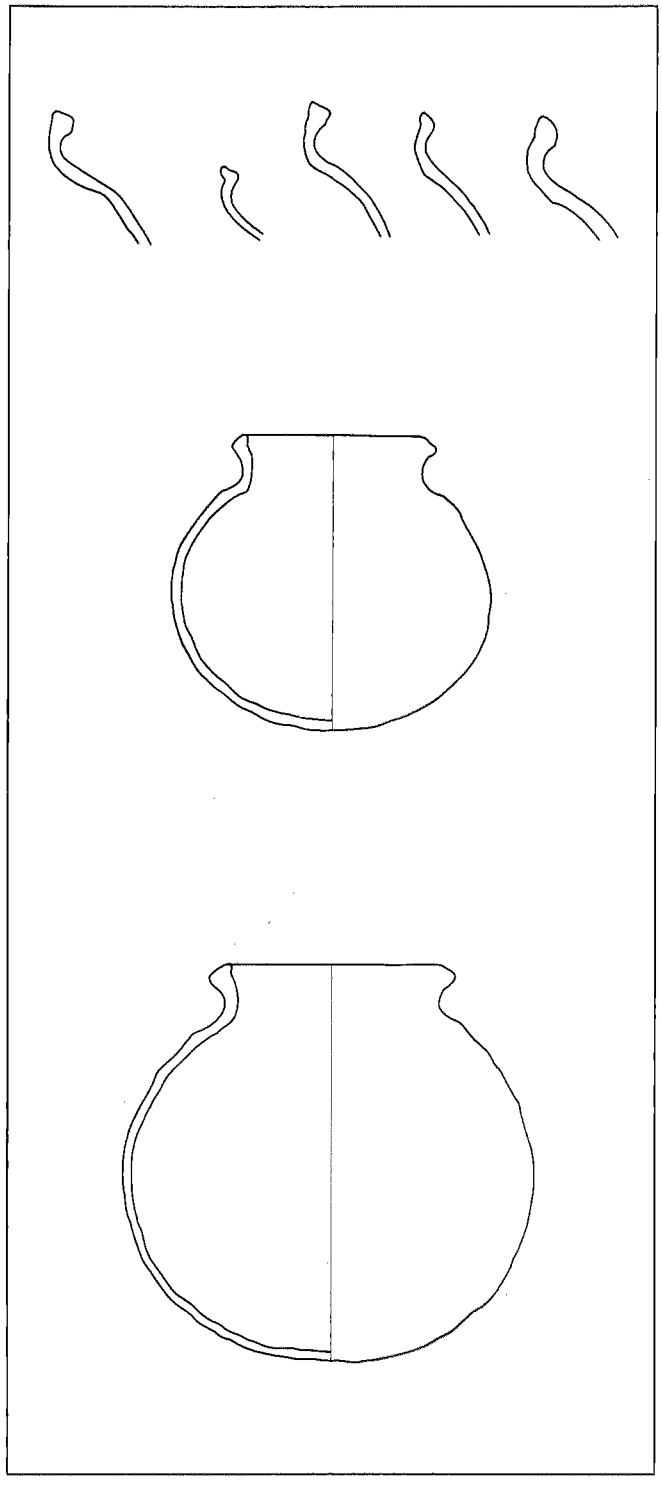

Fig. 4. Handgevormd aardewerk

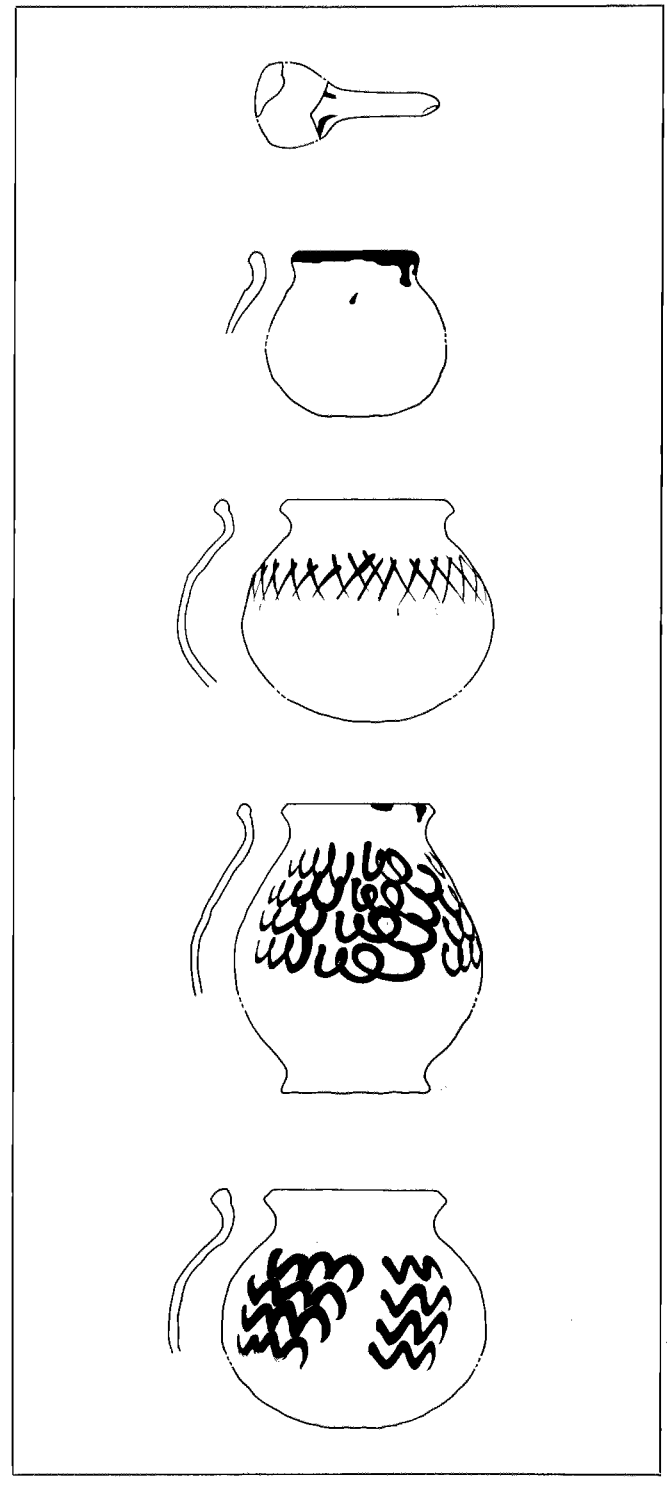

Fig. 5. Handgevormd aardewerk

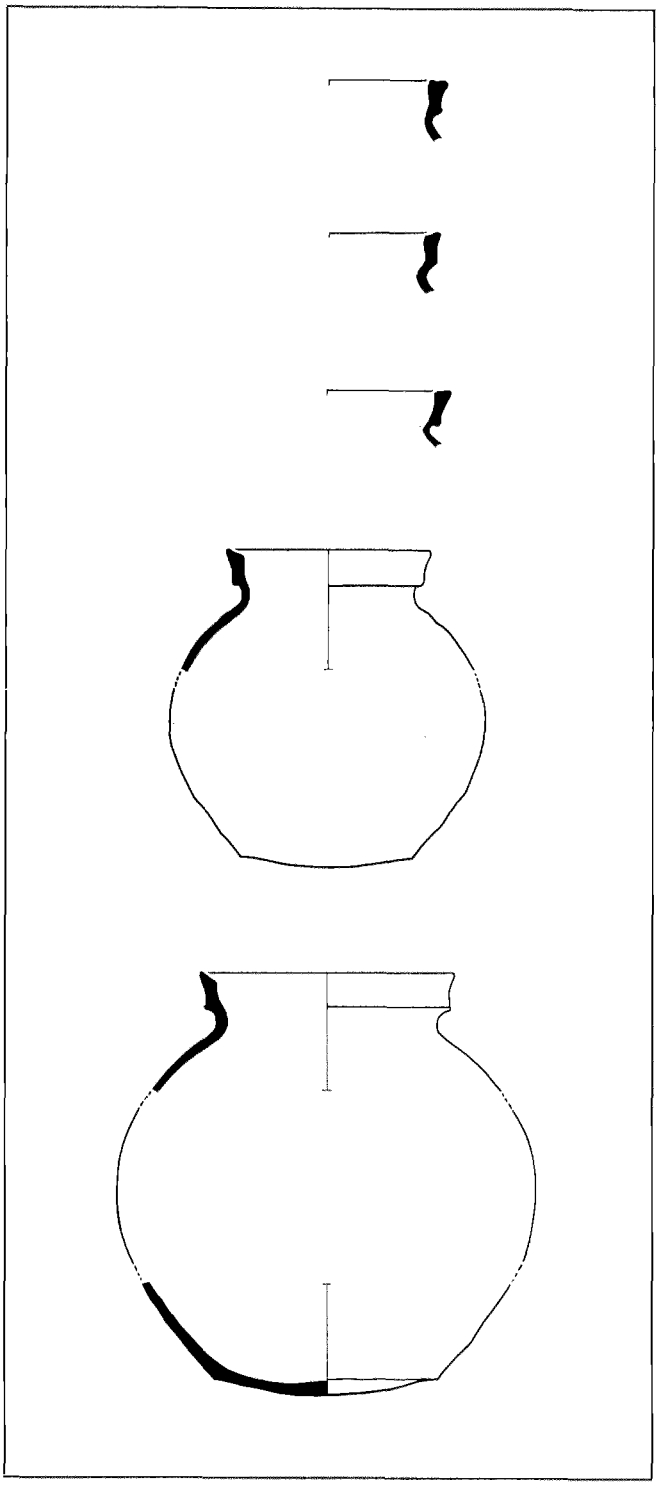

Fig. 6. Gedraaid aardewerk

In het eerste kwart van de 14de eeuw en plaatselijk reeds eerder bedraagt dit percentage nog slechts ruim één procent. Deze ontwikkeling, die van grote betekenis is geweest voor de vormveranderingen van het aardewerk[4] is slechts mogelijk geworden door veranderingen in het bakoventype en de wijze van stoken door de pottenbakkers. Hoe, waar en wanneer deze condities zodanig worden, dat de geschetste ontwikkeling kan plaatsvinden is, naar ik meen, een vraag die reeds voor een deel beantwoord kan worden. De mogelijkheid werd geschapen door het construeren van roosterloze ovens. Bij gelijke stookcapaciteit leverde dat een effectieve temperatuurwinst op van 200 à 250° C, voldoende om de poreusheid van de scherf terug te brengen van ± 30% tot ± 1%.

Dat deze ontwikkeling zich in West-Europa voornamelijk voltrekt in het Rijnland is aan de hand van de gevonden aardewerk- en steengoedprodukten wel zeer aannemelijk. Wanneer echter deze ontwikkeling op gang komt is nog moeilijk uit te maken. Het Merovingisch en Karolingisch aardewerk is van een kwaliteit die in het algemeen een wat hogere baktemperatuur dan in de Romeinse tijd aantoont. Er wordt niet met engobes gewerkt en het gebruik, de klei met zand te vermengen neemt toe, vooral bij schaal- en kookpotvormen; verschijnselen die wijzen op een streven naar hogere baktemperaturen. Daarnaast echter komt in de Merovingische periode veel aardewerk voor dat reducerend gestookt is en weinig of niet verschraald. Technisch schijnt men nog op twee gedachten te hinken, voor wat de bestrijding van de poreusheid betreft. Zeker in de twaalfde eeuw en voor zover te overzien ook in de elfde eeuw wordt alle aardewerk met zand gemagerd.

Eventuele wijzigingen in het oventype zouden ons interessante aanwijzingen kunnen geven, doch helaas zijn ovenvondsten uit de vroege middeleeuwen bijzonder zeldzaam.

De twaalfde-eeuwse oven is genoegzaam bekend uit talrijke vondsten in Duitsland, België en ook Nederland. Hetzelfde geldt voor de Romeinse ovenvormen.

Het bij het onderzoek te Nieuwenhagen gevonden aardewerk toont duidelijk aan dat wij te doen hebben met produkten uit een tijd rond 1100. Zij behoren tot periode A, die in Schinveld werd onderscheiden.[5] Deze periode is mede gekenmerkt door aardewerk met blokradstempelversiering en vormen, die moeilijk anders geïnterpreteerd kunnen worden dan als voortzetting van een Karolingische traditie. In

4 Zie Bruijn 1966, 9.
5 Zie Bruijn 1960–1 en 1964.

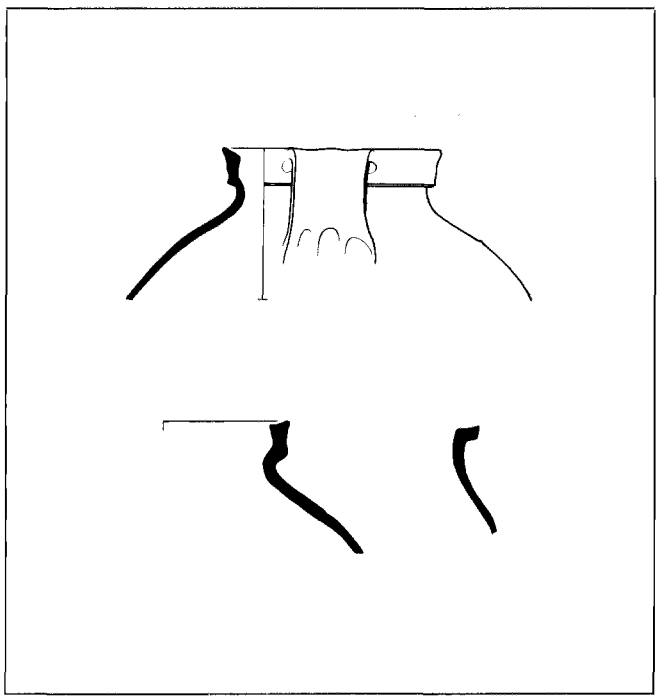

Fig. 7a. Gedraaid aardewerk

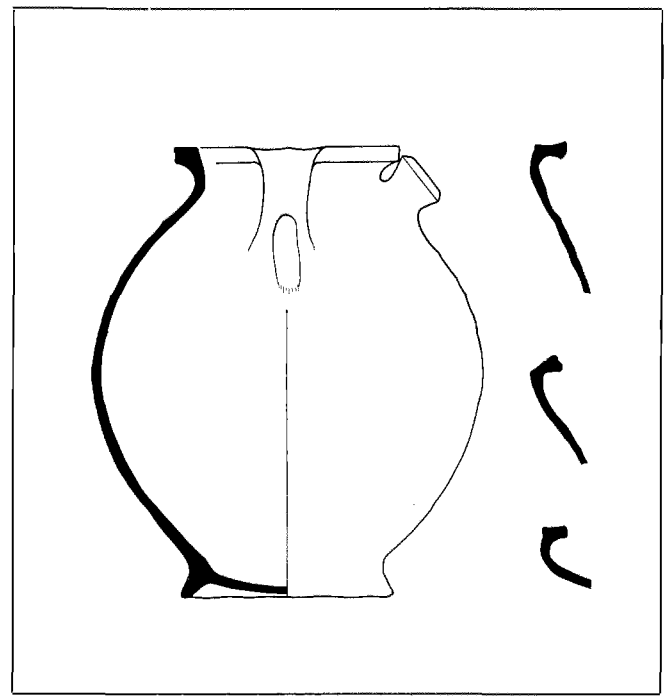

Fig. 7b. Gedraaid aardewerk

Schinveld, waar dit radstempelaardewerk in periode A voorkomt, zijn helaas geen ovens uit deze periode aan het licht gekomen.

De grotere industrieën in België te Andenne blijken in het begin van de twaalfde eeuw reeds te werken met ovens van het latere Brunssumse en Schinveldse type.[6]

De oven van Nieuwenhagen is dan ook ten volle onze aandacht waard. Het valt aanstonds op, dat een centrale zuil of middendam ontbreekt. Het is dan ook buiten discussie dat wij hier reeds te doen hebben met een roosterloze oven en dientengevolge ligt het voor de hand, dat – mits andere factoren het niet beletten – vrij hoge temperaturen gestookt konden worden. Bezien wij het totaal van de misbakprodukten, dan blijkt dat de pottenbakker met verschillende moeilijkheden te kampen had:

1. De potten zijn zodanig verhit geweest, dat het verwekingspunt van de klei werd bereikt en een sterke deformatie het gevolg was.
2. De temperatuur in de oven was zo hoog, dat opwervelende houtas een verbinding kon aangaan met de silicaten in de klei van de potten en allerlei grillige glasachtige uitwassen en korsten deed ontstaan die het produkt onverkoopbaar maakten.
3. Sommige branden zijn bedorven door een sterke pokdaligheid van het oppervlak, ontstaan door het afspringen van schilfers. Dit laatste verschijnsel treedt op bij te snelle toename of afname van de temperatuur in de oven.
4. Tussen het afvalmateriaal komen bij uitzondering scherven voor die aantonen dat de baktemperatuur te laag is geweest.
5. De potten vertonen abnormaal grote kleurafwijkingen naar bruin, bruingrijs of donkergrijs, hetgeen voor beschilderd aardewerk zeer ongewenst geacht moet worden.

Als wij niet uitgaan van de idee, dat deze pottenbakker een uitgesproken prutser was in zijn vak, dan kunnen de gesignaleerde verschijnselen dienen als gegevens bij het vormen van een voorstelling van de oven en zijn mogelijkheden. Zij wijzen alle min of meer in eenzelfde richting.

De oven leverde gemakkelijk een oververhitting en was moeilijk regulerend te sluiten.

6 Borremans & Warginaire 1966

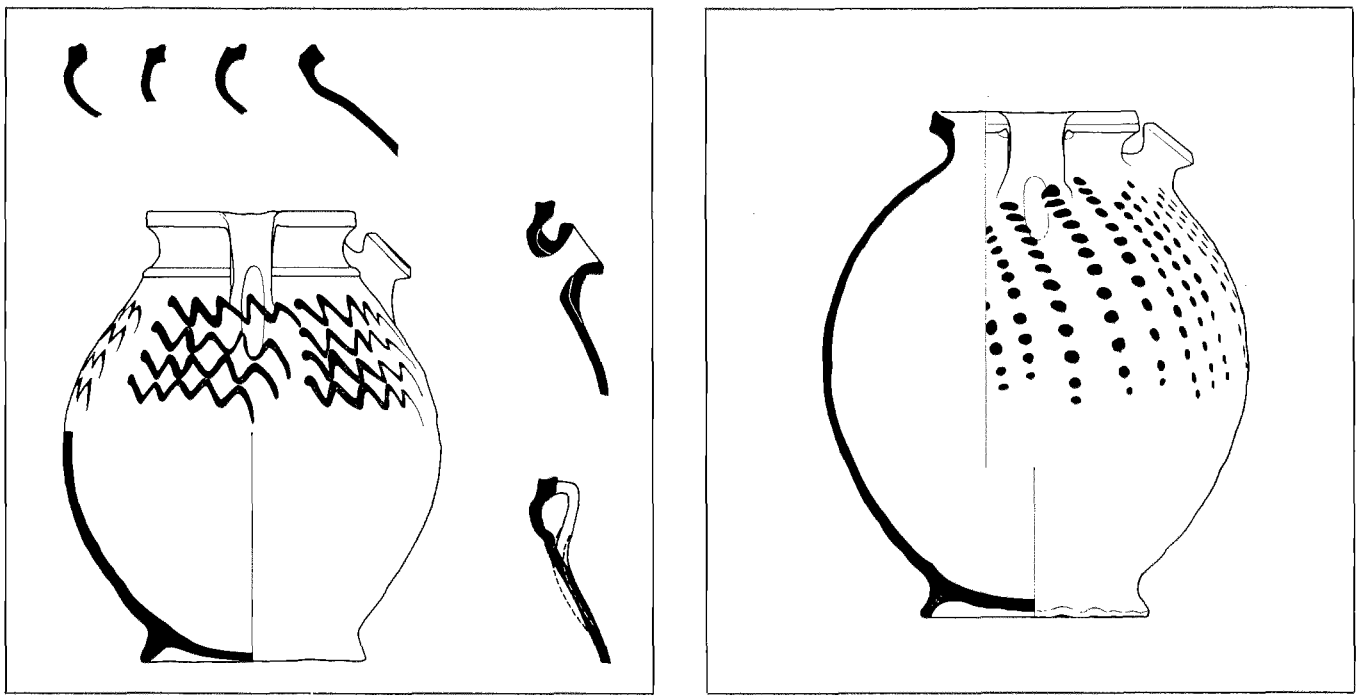

Fig. 7c. Gedraaid aardewerk

De verhitting geschiedde te direct en trachtte men te temperen, dan trad te snel reductie en afkoeling op. Deze uit het aardewerk af te leiden gevolgtrekkingen zijn niet onlogisch in het licht van de opgravingsgegevens. De oven is diep in de grond aangelegd, hetgeen een spoedig optredend zuurstofgebrek verklaart. Er is geen afzonderlijk bak- en stookruim en ook geen scheiding door een rooster, zodat de potten gemakkelijk in direct contact met het vuur kwamen. Als voornaamste probleem rest ons het treksysteem van de oven. Door het ontbreken van de bovenbouw valt dit probleem niet met zekerheid op te lossen.

Gelet op de diepe ligging van de oven is het aantal mogelijkheden echter niet zo groot. Om vanuit het oppervlak een loodrechte schacht te graven naar het koepelgewelf is een hachelijke onderneming die beschadiging van het gewelf tot gevolg zou hebben en bovendien niet kan voldoen aan de eis dat de hitte via de te bakken potten afgezogen moet worden; er zou een directe trek ontstaan van de ovenmond naar het schoorsteenkanaal. Een oplossing in deze geest zou ongeveer overeenkomen met een logica die ons dwingt op het dak te klimmen en de schoorsteen te sluiten om de kamerkachel wat te temperen. Nu kan een kamerkachel ook getemperd worden door het kacheldeurtje te sluiten en zo de trek te verminderen. Niemand bekommert zich om het feit dat er dan in de kachel een reducerend milieu ontstaat. Een pottenbakker echter, die 'ondergronds' werkt, kan de ovenmond pas ongestraft sluiten als zijn vuur is doorgebrand en geheel gedoofd moet worden. Tijdens het stoken moet hij voornamelijk daar regelend optreden waar de lucht afgevoerd wordt. Het is dan ook begrijpelijk dat de Romeinse pottenbakker, die eveneens in een diepe werkkuil stond te stoken, de trekopening boven aan zijn oven richtte naar de plaats waar hij zich tijdens het stoken moest bevinden nl. bij de ovenmond. De overkoepeling van de vuurmond kan als verhoging door de pottenbakker benut worden om op te gaan staan als hij de trek bij schoorsteen of trekgat wilde regelen. Afbeeldingen van deze bezigheid zijn reeds bekend van Corinthische kleitabletten uit de 7de eeuw vóór Chr.[8] De meest logische oplossing voor de oven van Nieuwenha-

8 *Ant. Denkm.* I, T. VIII, 1, 12, 21, 22, geciteerd door Loeschcke 1922, 8.

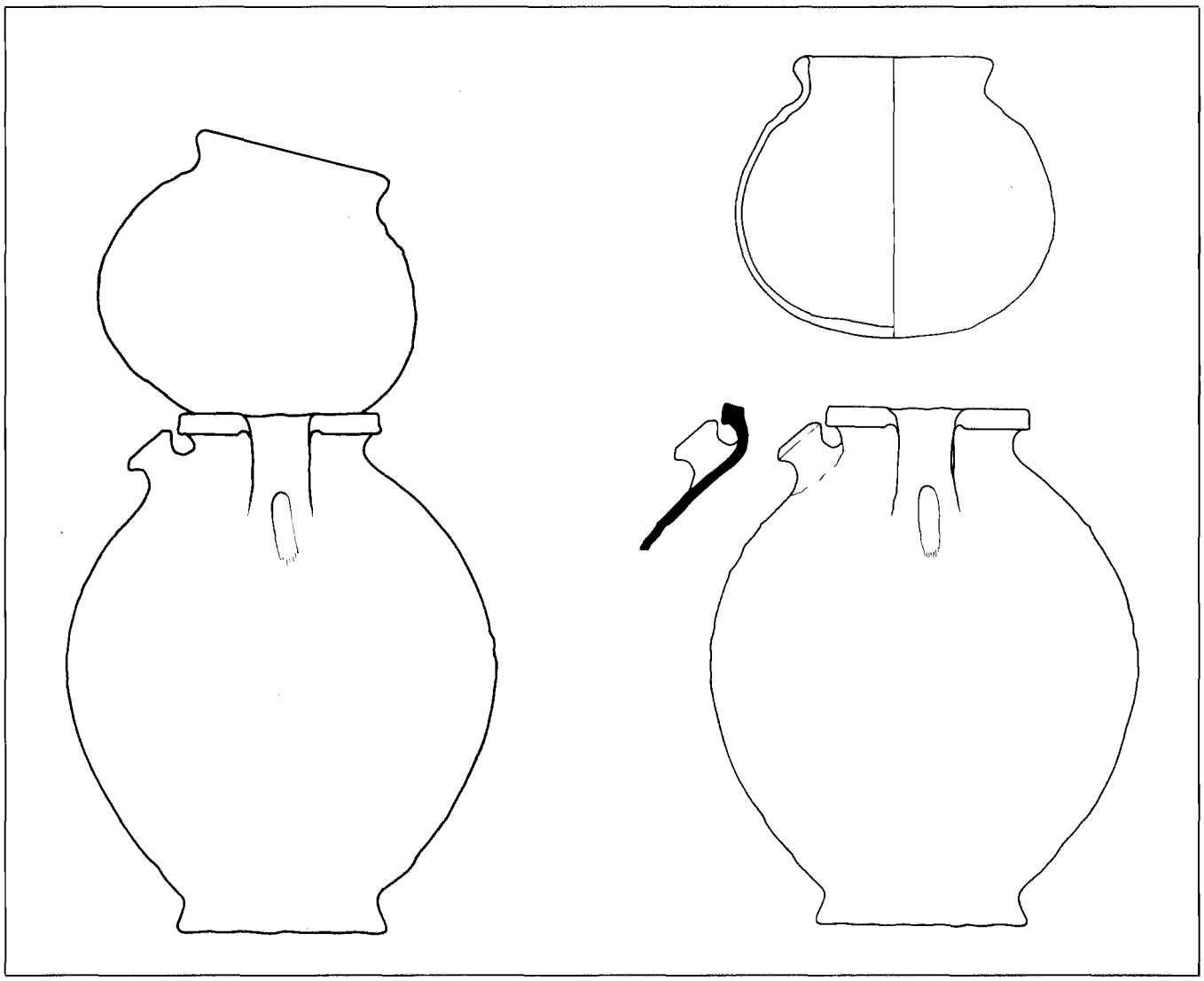

Fig. 8. Gedraaid en handgevormd aardewerk

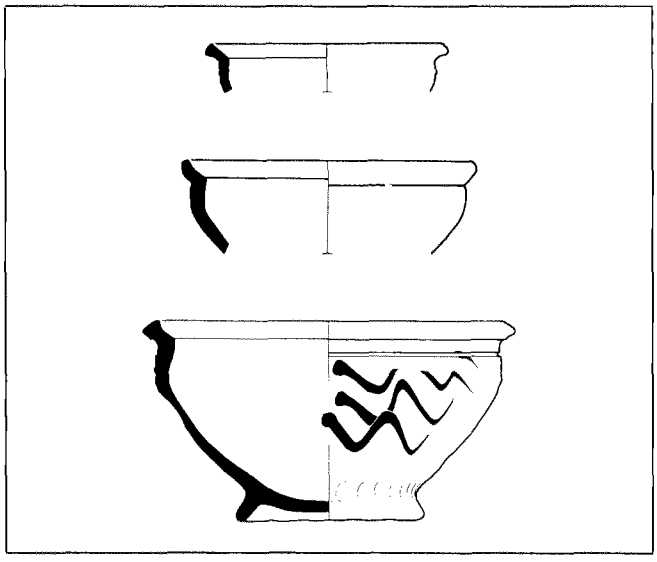

Fig. 9a. Gedraaid aardewerk

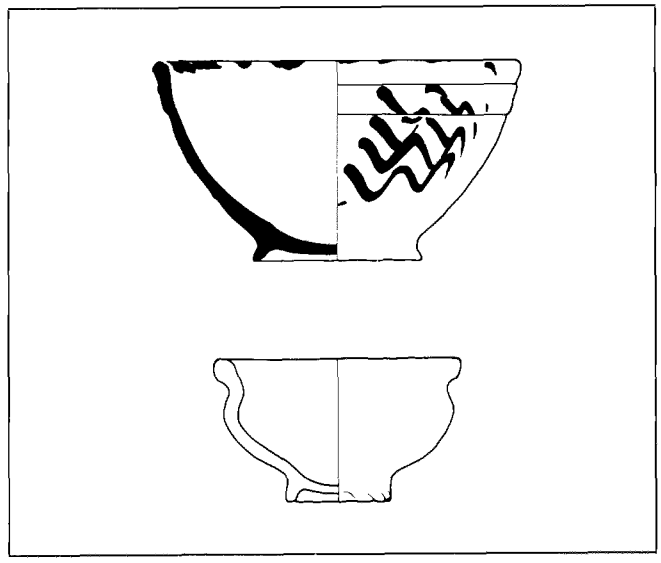

Fig. 9b. Gedraaid aardewerk

gen lijkt eveneens een trekopening, gericht naar het front waar de pottenbakker staat te stoken en wel zodanig aangesloten op het ovengewelf, dat hij een vloeiende lijn vormt met de achterzijde van de koepel (afb. 3b). Op deze wijze kan, mede door de vorm van de werkkuil, een circulatie van de hitte onder de koepel ontstaan, die de bereikte hoge temperaturen van ± 1150° C begrijpelijk maakt.

De eerder genoemde verschijnselen in het aardewerk en de uitzonderlijke vorm van de werkkuil passen goed in het onderstelde systeem. De sterk hellende bodem van de werkkuil vormt wel een bijzonder ongerieflijke standplaats voor de stokende pottenbakker en moet dan ook om wille van zaken die zwaarder wegen dan het 'goed-voor-zijn-werk-staan', in deze vorm zijn gebracht.

Het strakke doorlopen van de bodemlijn van de werkkuil in die van de ovenvloer wijst ons inziens op een verband met de trek en de noodzakelijke circulatie in de oven.

Afbeelding 3b geeft een schematische voorstelling van het geconstrueerde principe. Omtrent de juistheid van deze reconstructie bezitten wij geen enkele zekerheid. Beschouwt men echter het oventype dat enige generaties later in deze streken in gebruik is, dan is dat in grote lijnen weinig meer dan een iets verbeterde en bovengrondse uitvoering van het onderstelde type uit Nieuwenhagen.

Wij kunnen slechts hopen dat in de toekomst beter geconserveerde ovenrestanten gevonden zullen worden om de lacune tussen Romeinse en (laat)middeleeuwse aardewerkgeschiedenis op te vullen.

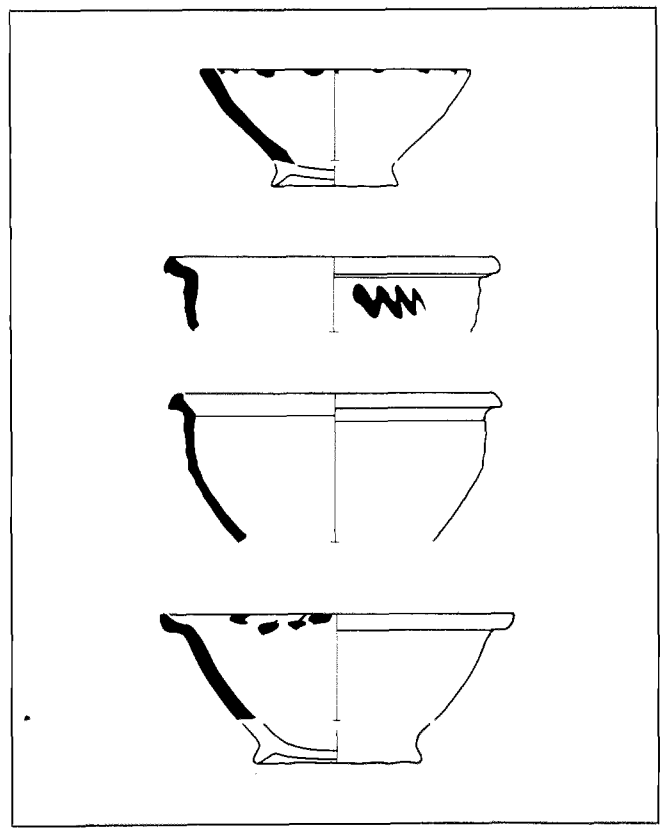

Fig. 9c. Gedraaid aardewerk

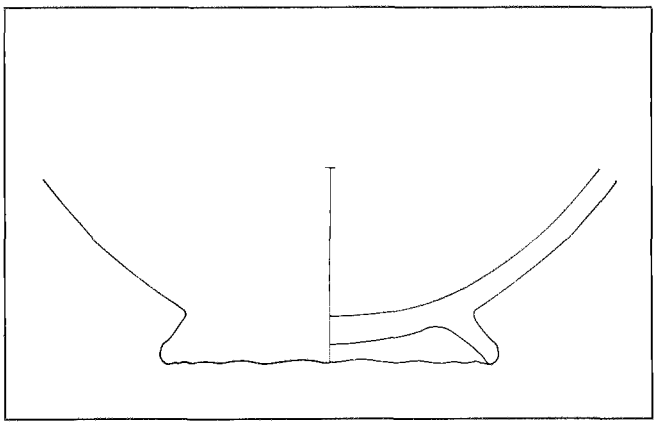

Fig. 10. Handgevormd aardewerk

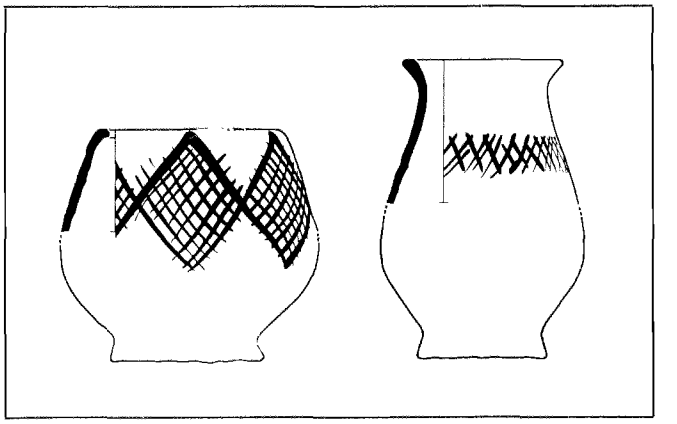

Fig. 11a. Gedraaid aardewerk

HET AARDEWERK

De keramiekvondsten bij de oven van Nieuwenhagen zijn niet te onderscheiden van die van periode A te Schinveld.[9] De algemene kenmerken van deze periode zijn:

1. Op de draaischijf vervaardigd aardewerk.
2. Gedraaid uit 'witbakkende' klei vermengd met ± 20% ongezeefd zand van ongelijkmatige korrelgrootte. Niet zelden komen enige keitjes kwarts voor van twee of meer mm doorsnede.
3. Baktemperatuur gewoonlijk rond 1000° C, soms tot ± 1100° C.
4. Kleur kenmerkend geel-wit. Voornamelijk bij het grotere vaatwerk, als kookpotten en schenkgerei treden in klein aantal gelijkmatig grijze exemplaren op.
5. In de vormgeving vallen op: *a* manchetvormige randen, al dan niet voorzien van z.g. dekselgeulen bij de kookpotten met lensbodem[10]; *b* brede, horizontaal buitenwaarts gerichte, hoekige randen bij de tuitpotten met lintoren en standring[11]; *c* de cilindrische tuit van de tuitpotten is gewoonlijk door de schouderwand van de pot gestoken[12]; en *d* alle aardewerkvormen vertonen een correctie van de wanddikte door middel van bijsnijden van dat gedeelte van de vorm dat zich beneden de grootste diameter bevindt.[13]
6. Versieringswijze: *a* beschildering met ijzerhoudende slib. Karakteristiek is een motief dat bestaat uit vier gelijktijdig en gelijkvormig getrokken golflijnen, die doorgezet zijn tot op of zelfs over de grootste diameter van de pot.[14] Typisch is ook een boogvorm, bestaande uit vier verfstippen.[15] Beide motieven werden waarschijnlijk met de vingers aangebracht; *b* Blokradstempelversiering, zowel één- als tweerijig op hals en schouder tot vlak boven, soms tot aan de grootste diameter van de pot[16]; *c* Combinatie van de versieringen genoemd onder a en b[17]; *d* Bruingeel tot geelbruin loodglazuur, voorkomend over vrijwel het gehele buitenoppervlak van de pot[18]; *e* Combinatie van de versieringen genoemd onder b en d[19]; *f* Ingekraste, schroefdraadgewijs verlopende golflijnversiering, voorkomende op rand, hals en schouder (tot grootste diameter) van de pot in combinatie met d[20]; *g* Reliëfbandversiering voorkomend in twee typen:
1. een 2 à 3 mm dikke en ongeveer 1 cm brede in reliëf golvende band, aanwezig op grote vaten van buidelvorm[21].

9 Bruijn 1964, 133–49.
10 Bruijn 1964, afb. 5 en 6.
11 Bruijn 1960–1, Abb. 11: 1.
12 Bruijn 1964, afb. 8: 3 en 11: 1b.
13 Bruijn 1964, afb. 5: 11.
14 Bruijn 1964, afb. 15 en 16.
15 Bruijn 1960–1, Abb. 14: 7.
16 Bruijn 1964, afb. 5, 7 en 8.
17 Bruijn 1960–1, Abb. 14, 15 en 18.
18 Bruijn 1964, afb. 5 en 8–14.
19 Bruijn 1964, afb. 8: 3.
20 Bruijn 1964, afb. 9, 10 en 11: 3.
21 Bruijn 1964, 143, tabel rechts boven.

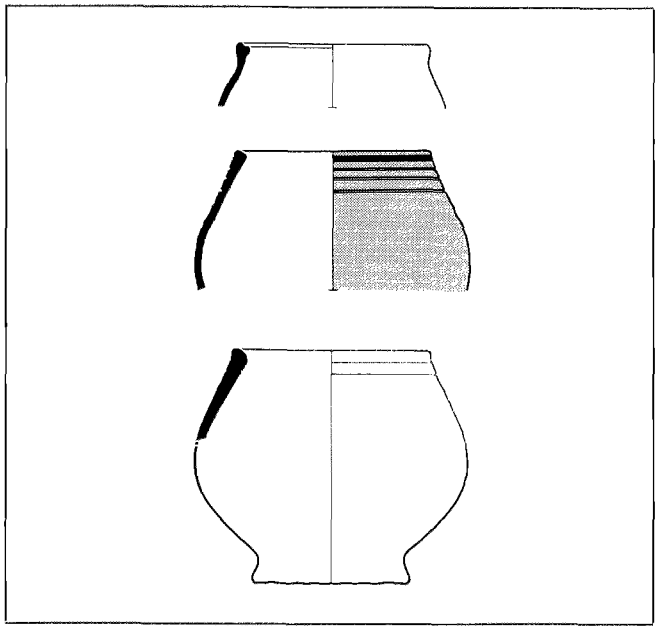

Fig. 11b. Gedraaid aardewerk

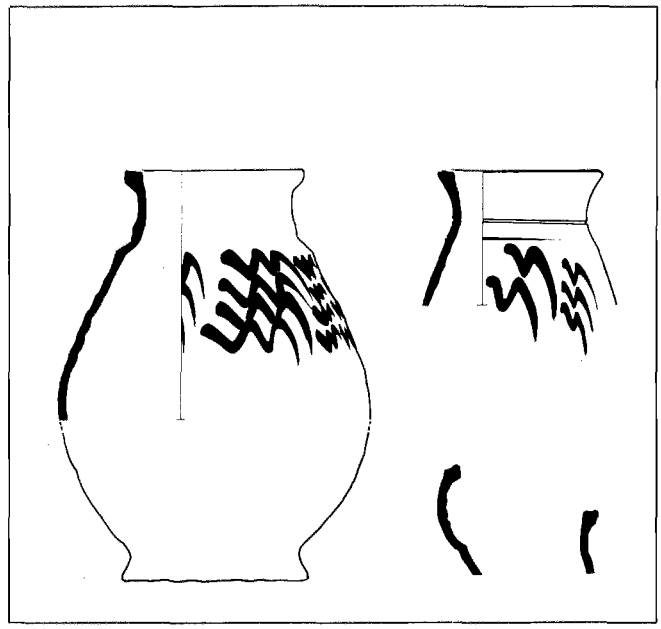

Fig. 11c. Gedraaid aardewerk

2. een smalle, 5 tot 10 mm brede en 3 tot 6 mm hoge, op doorsnede driehoekige band, aanwezig op groot vaatwerk van (nog) onbekende vorm in combinatie met versieringswijze 6a en op schenkgerei in combinatie met 6d[22].

Bij de produkten van Nieuwenhagen zijn enige tegenstellingen met dit algemene beeld van periode A op te merken.

Het radstempel komt niet voor bij de versieringswijzen op de potten en afwijkend is ook het talrijk voorkomen van handgevormde kogelpotten; enkele kleinere beschilderde potjes zijn eveneens niet op de draaischijf vervaardigd. Deze handvormwaar is niet of nauwelijks te onderscheiden van de produkten uit Schinveld periode I (vroeg), die daar volgt op periode A.[23]

Een opmerkelijke vondst te Nieuwenhagen, een op de schijf gedraaide tuitpot met daarop vast gebakken een handgevormde kogelpot, toont onomstotelijk aan, dat beide vormen en technieken gelijktijdig kunnen voorkomen (afb. 8 en pl. XXIII). Het komt ons aannemelijk voor dat de Nieuwenhagense pottenbakker werkt in een tijd, die overeenkomt met de eindphase van periode A. De oude traditie om met een blokradstempel te versieren is reeds in onbruik geraakt en de opkomst van het handgevormde twaalfde-eeuwse aardewerk kondigt zich reeds aan. Veel kenmerkende vormen en versieringen van rond 1100 zijn nog in zwang. Een datering in het eerste kwart van de twaalfde eeuw en waarschijnlijk in de laatste jaren daarvan lijkt ons dan ook het meest aanvaardbaar.

22 Bruijn 1964, afb. 10 en 11: 1 en 2.

23 Bruijn 1964.

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J.G.N. RENAUD

Nieuwe vondsten van Oosterwijk in Kennemerland

Weinig kon schrijver dezes vermoeden, dat hij na de publikatie van 'Oosterwijk in Kennemerland' (*Berichten R.O.B.* 10–1, 1960–1, 508–25) reeds binnen enkele jaren zich opnieuw met vondsten van Oosterwijk zou moeten bezig houden. De aanleiding werd gegeven door bepaalde werkzaamheden, die samenhangen met de voortschrijdende ontwikkeling van de nieuwe woonwijk, die naar het middeleeuwse versterkte huis de naam 'Oosterwijk' draagt. Het terrein met de resten van het kasteel was daarin gedacht als een eilandje met wat brokken metselwerk in een romantische waterpartij; een stukje recreatie dus. Ter voorbereiding van een en ander werd de sloot om het emplacement – overblijfsel van de oude gracht – verbreed en de taluds weggegraven. Daarbij kwamen nog al wat vondsten te voorschijn, die door een groepje amateur-archeologen met de heer Th.M. Luijpen aan het hoofd verzameld werden en zelfs ten dele uitgespit. Uiteraard zijn vondsten uit een kasteelgracht niet altijd interessant voor de archeoloog, omdat de stratigrafie meestal onduidelijk is; slechts zeer zelden kan men van een geleidelijke, laagsgewijze opvulling van een gracht spreken. Soms echter komen onder de vondsten stukken voor, die nu niet bepaald tot de gewone doorsnee-waar behoren en die daarom alleen al een vermelding waard zijn.

Uit de slotgracht van Oosterwijk nu kwam inderdaad materiaal te voorschijn, dat met betrekking tot de vindplaats en in verband met de zeldzaamheid een behandeling en publikatie verdient.

Op blz. 509 van de *Berichten R.O.B.* 10–1, 1960–1 werd een tekening van de opgegraven verschijnselen gepubliceerd (afb. 1). In de zuidhoek van het kasteelemplacement lagen de puinbanen, die de uitgebroken funderingen van een grote toren markeerden. Hierop aansluitend vertoont zich – zwart gekleurd – het enige brok metselwerk dat nog intact werd teruggevonden. Dit nu vormde een belangwekkend architectonisch detail: de afvoerkoker van een privaat. Daar de toren niet met de voet in de gracht stond, hadden de bouwers de gemetselde afvoer verlengd met een houten koker, die aan de rand van het talud in de gracht uitmondde. Een gedeelte van die houten koker was verdwenen, toen men tijdens de tweede bouwperiode een nieuwe ringmuur om de toren heen bouwde, maar het uiteinde van de houten afvoer bleef toen in het talud steken. Gedeeltelijk in het uiteinde, gedeeltelijk rond de uitmonding bevonden zich allerlei vondsten, die indertijd hoofdzakelijk tijdens de eerste bewoningsperiode – dus toen de afvoer nog functioneerde – als afval in de gracht belandden. Het is in het bijzonder aan de oplettendheid van de heer Harmen van der Mey, een lid van bovenbedoelde groep, te danken, dat er zulke belangwekkende stukken geborgen zijn. Een groot aantal scherven werd door hem verzameld, die zich op het restauratieatelier tot 'hele' potten lieten samenvoegen, zodat er uiteindelijk een opmerkelijke collectie toonbaar aardewerk uit ontstond. Naast het aardewerk behoren enkele andere vondsten onder de aandacht gebracht te worden, die we eveneens tot de zeldzaam voorkomende zaken mogen rekenen. De datering van de vondsten die kennelijk tot de oudste groep behoren, ligt vrij goed vast. In zijn opstel over de geschiedenis van het Huis Oosterwijk (*Berichten R.O.B.* 10–1, 1960–1, 526–38) zet Jhr H.A. van Foreest uiteen, dat Ter Wijc – zoals Oosterwijk oorspronkelijk heette – omstreeks het midden of in de tweede helft van de 13de eeuw zal zijn gesticht, terwijl hij het aannemelijk maakt dat het huis in 1351 verwoest werd.

Om nu met het aardewerk te beginnen, herinneren wij aan de gebruikelijke indeling van blauwgrijs aardewerk, rood aardewerk en steengoed. Deze laat zich op de vondsten van Oosterwijk zonder moeite toepassen.

BLAUWGRIJS AARDEWERK

Het blauwgrijze aardewerk is afgebeeld op fig. 1–4. De nrs 1 en 2 van fig. 1 vertonen opmerkelijke verschillen. Het ontwikkelde randprofiel van nr 2 schijnt wel in grote tegenstel-

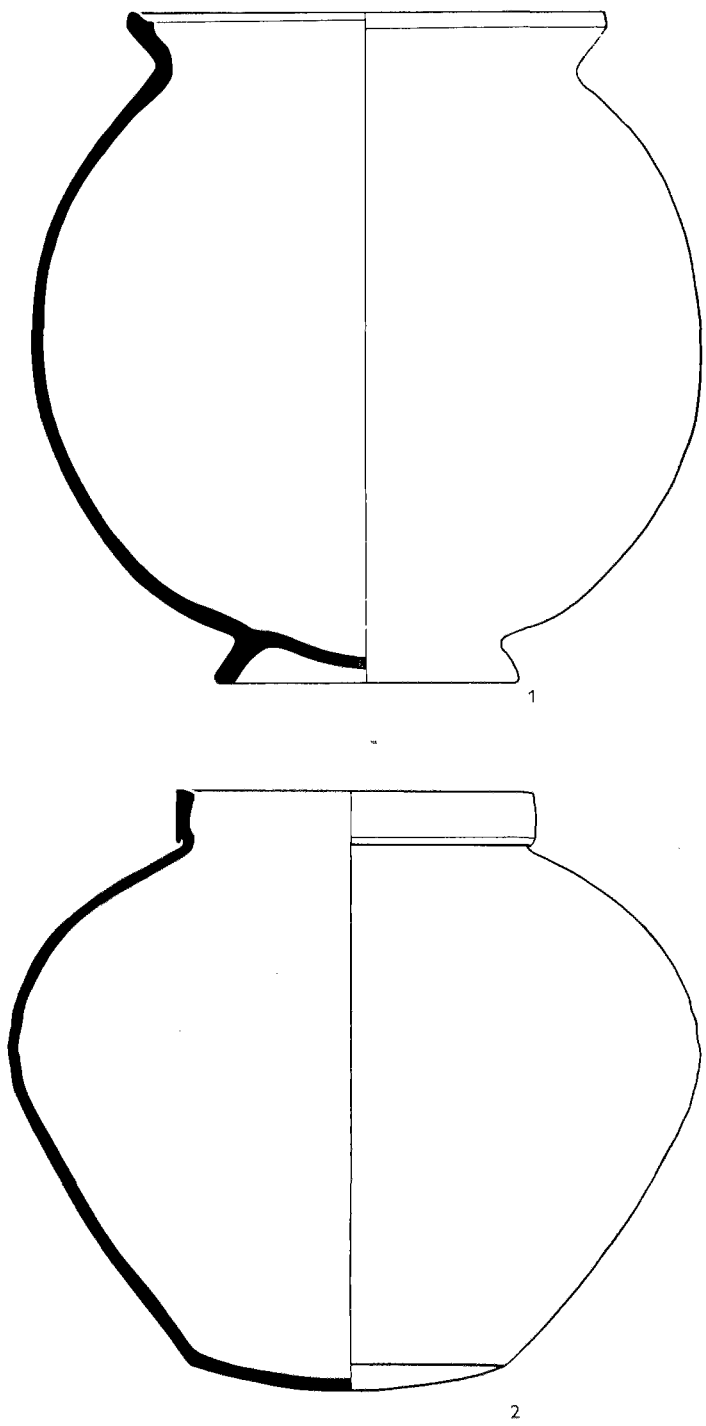


Fig. 1. Oosterwijk. Blauwgrijs aardewerk

ling te staan tot de lensvormige bodem, die het stuk maar een onzekere stand geeft.

Waarschijnlijk komt dit stuk uit een ander atelier dan nr 1, voorzien van een standring en heel wat grover van materiaal. Er bestaat nog wel eens neiging om dit soort potten tamelijk vroeg te dateren. De vondstomstandigheden op Oosterwijk laten als vroegste datering het midden van de 13de eeuw toe, al wordt daarmee niet bewezen, dat zij ook niet reeds in de eerste helft van deze eeuw zouden kunnen voorkomen. We zullen in dit bijna 36 cm hoge stuk een voorraadsvat hebben te zien, evenals in nr 2.

Fig. 2 geeft in de nrs 1, 2 en 3 vormen van blauwgrijs aardewerk, die ten dele in de keuken, ten dele in de provisiekelder thuishoren. Nr 1 vormt misschien een fragment van een schenkkan, hoewel het nèt niet mogelijk is om vast te stellen of dit voorwerp ooit voorzien was van een handvat. De bodem, hoewel lensvormig, biedt een zekerder standvlak dan men zo op het eerste gezicht zou denken. Nr 2, met zijn uitgesproken buidelvorm en wijde mondopening (22.5 cm over de rand gemeten) zal wel als kookpot beschouwd moeten worden. Het oppervlak is met een harde borstel bewerkt, zodat het zogenaamde 'Besenstrichmuster' ontstond. Overigens wijst alles er op, dat het stuk niet op de draaischijf ontstond, maar met de hand gevormd werd.

Dit moet men ook vaststellen ten aanzien van nr 3, waarbij dan onmiddellijk aangetekend dient te worden dat de rand met de vormspaan nagedraaid is. Ook de groeven op de schouderpartij kwamen met behulp van de vormspaan tot stand. Men aarzelt, of deze pot met zijn hoogte van 27 cm nog tot het kookgerei gerekend mag worden. Waarschijnlijk zullen we er een voorraadspot in moeten zien.

Fig. 3 geeft de profielen van twee fragmenten, waarvan nr 1 in alle opzichten sterke verwantschap vertoont met het laatst behandelde stuk, hoewel het wellicht een maatje kleiner was. Nr 3, overigens een weinig opmerkelijk stuk, zou men liever in de 14de dan in de 13de eeuw dateren.

Op fig. 4, nr 2 tenslotte een fragment van een grote blauwgrijze waterkan, zoals we die van de Nieuwendoorn en Valckensteyn ook zo goed kennen en die we eveneens eerder in de eerste helft van de 14de, dan in de 13de eeuw zouden willen dateren.

ROOD AARDEWERK

Om te beginnen vinden we op fig. 2 onder nr 4 een kan weergegeven, die vermoedelijk nog omstreeks 1300 te dateren valt. Het bleekrode baksel wijst op een herkomst uit het zuiden; het randprofiel ondersteunt deze veronderstelling.

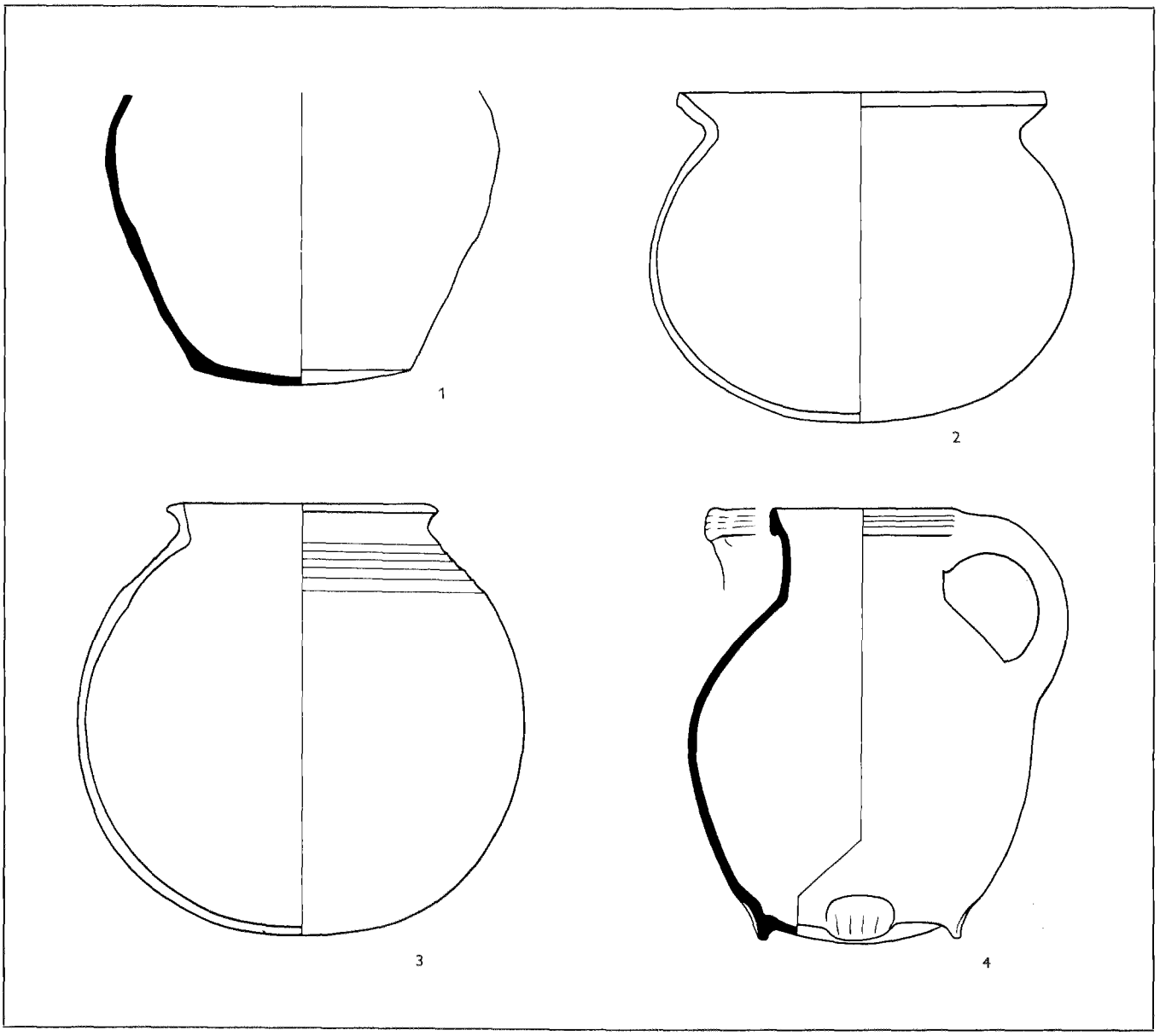


Fig. 2. Oosterwijk. Nrs. 1–3: blauwgrijs aardewerk; nr. 4: rood aardewerk

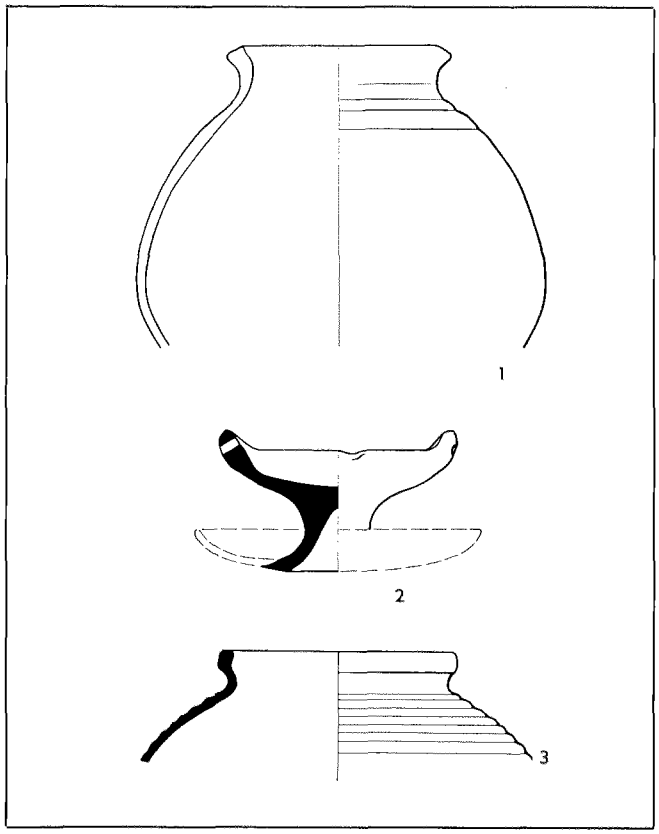


Fig. 3. Oosterwijk. Nrs. 1 en 3: blauwgrijs aardewerk; nr. 2: rood aardewerk

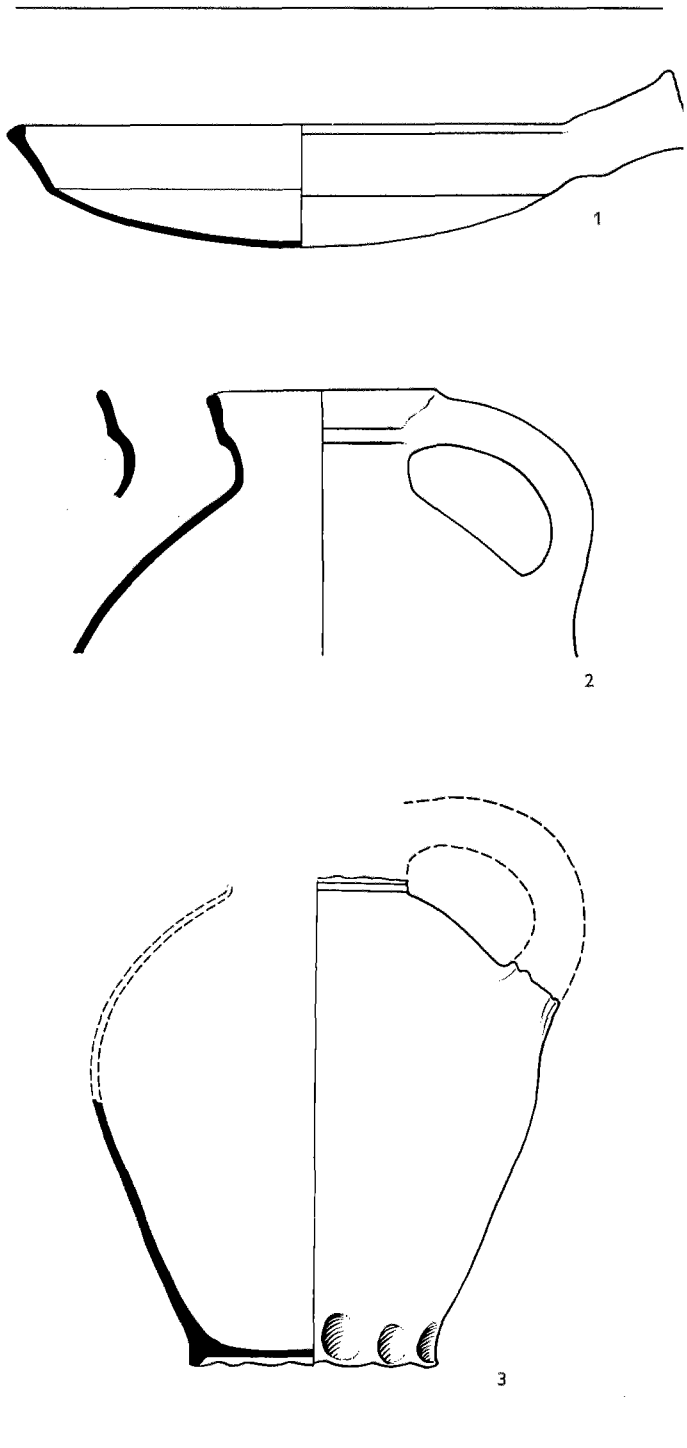


Fig. 4. Oosterwijk. Nr. 2: blauwgrijs aardewerk; nr. 1 en 3: rood aardewerk

Op fig. 4 vinden we onder de nrs 1 en 3 twee stukken rood, gedeeltelijk geglazuurd aardewerk afgebeeld. Nr 1 is een koekepan met holle steel, waarvan de binnenzijde met loodglazuur is overtrokken. In het holle handvat kon een houten steel worden gestoken, hetgeen het keukengerei wat handelbaarder maakte. Hoewel deze gebruiksvoorwerpen nu niet bepaald aan een sterk wisselende mode waren onderworpen, maken zij toch in de loop der tijden wel bepaalde vormveranderingen door. De bolle bodem van het onderhavige stuk vormt een aanleiding om tot een tijdsbepaling in het begin van de 14de eeuw te besluiten.

De grote kan, waarvan de halspartij kennelijk geglazuurd was (nr 3) zou op grond van zijn voet – een reeks uitgeschulpte pootjes – eveneens tot het begin van de 14de eeuw gerekend kunnen worden.

Het zwaar beschadigde olielampje, afgebeeld op fig. 3 onder nr 2 vertoont geen duidelijke aanwijzingen voor een vroege

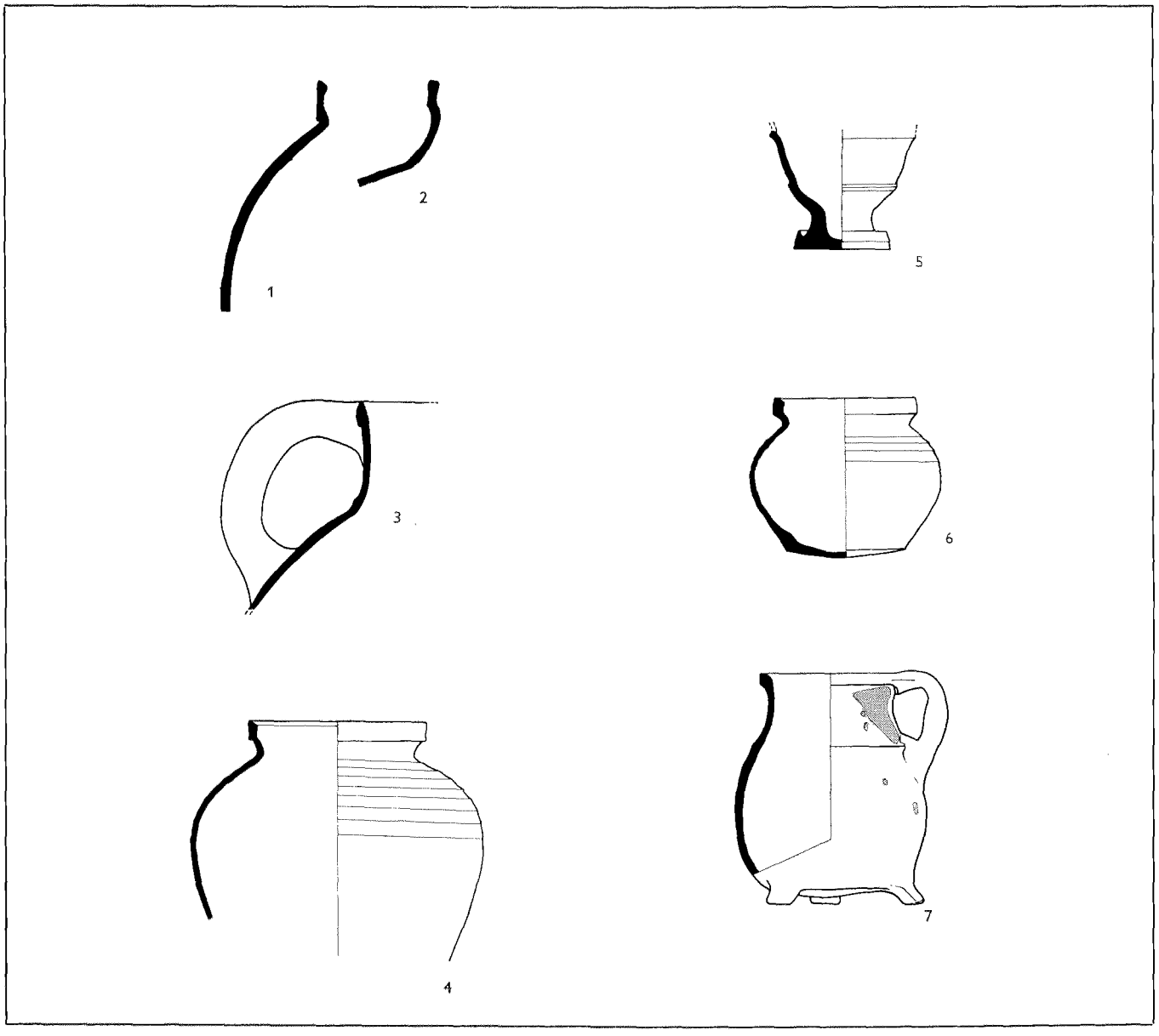


Fig. 5. Oosterwijk. Nrs. 1, 2, 3 en 7: rood aardewerk; nr. 5: steengoed; nrs. 4 en 6: gelig aardewerk

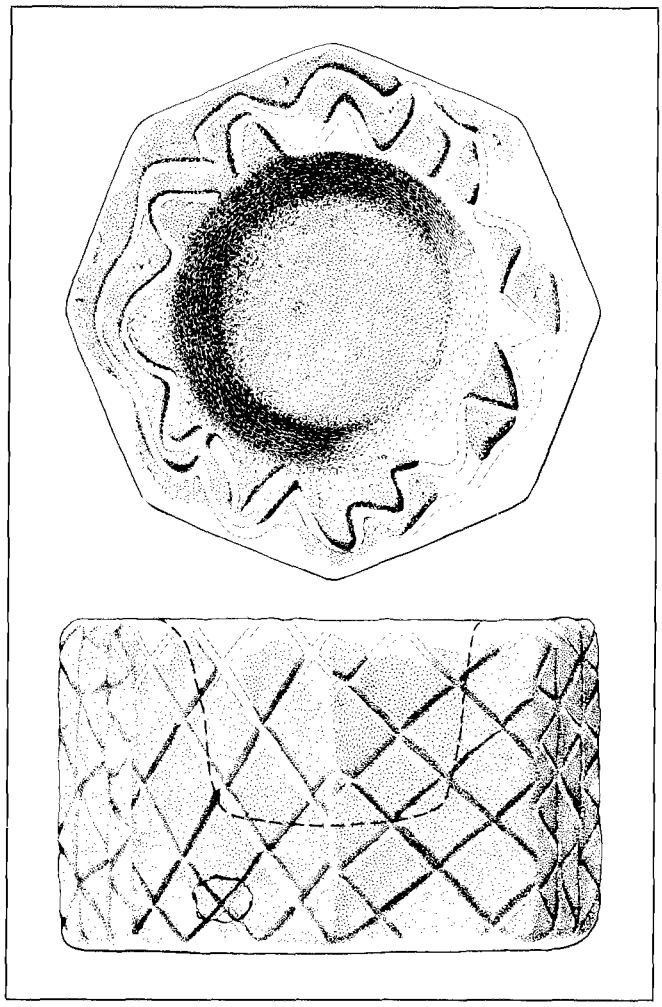


Fig. 6. Oosterwijk. Achtkantig bakje van ongeglazuurd rood aardewerk. Schaal 1 : 2

datering. We beschikken eigenlijk nog over te weinig goed gedateerd vergelijkingsmateriaal, om een losse vondst uit de gracht zo maar zijn plaats in de ontwikkelingsrij aan te wijzen. De vondstomstandigheden maken het namelijk onduidelijk, of dit brokstuk in, dan wel in de naaste omgeving van de afvoerkoker gevonden werd. We kennen dit type met de twee doorboorde nopjes wel, maar zijn geneigd het in de 15de eeuw te plaatsen.

Fig. 5 geeft onder de nrs 1, 2, 3 en 7 vier voorbeelden van rood aardewerk. Het fragment nr 1 heeft een bleekrode, vrij grove oppervlakte zonder loodglazuur. Slechts een klein plekje aan de rand verraadt, dat rand en schouder althans gedeeltelijk met loodglazuur waren overdekt. De binnenkant geeft geen enkele aanwijzing voor de toepassing van glazuur; bij een voorraadspot behoeft dat ook niet noodzakelijk het geval te zijn.

Ook het fragment nr 2 vertoont sporen van glazuur; het stuk is hard en heeft een grauwe tint; op de breuk ziet men een grijzige mantel om een rode kern. Hoogstwaarschijnlijk zijn dit de gevolgen van een brand; de pot heeft klaarblijkelijk gelegen in een houtskoolrijke, dus reducerende omgeving.

Beide besproken fragmenten kunnen in de veertiende eeuw gedateerd worden en men mag ze derhalve beschouwen als stukken, behorende bij de inventaris van het omstreeks 1350 verwoeste kasteel. Ook het bleekrode, van enig glazuur voorziene brokstuk van een kan, afgebeeld onder nr 3 moet gedurende de eerste helft van de 14de eeuw in de gracht geraakt zijn. Het randprofiel geeft aanleiding om dat moment in de eerste decennia te zoeken. Het ronde oor werd door de pottenbakker kennelijk aangezet door uitstulping van de wand. Het putje, dat daardoor aan de binnenzijde van die wand ontstond, werd niet met klei dichtgesmeerd. Later was dat regel.

Over nr 7 kunnen we kort zijn. Het gaat hier om een driepootje, dat misschien pas omstreeks 1500 ontstaan is en kennelijk tijdens de eerste helft van de 16de eeuw in de gracht belandde.

De twee nog niet besproken nummers van afb. 5, namelijk de stukken weergegeven onder 4 en 6, vallen eigenlijk wel wat buiten het kader. Zij bestaan uit geelbruinig, vrij hard gebakken, ongeglazuurd aardewerk, dat in het algemeen tot de 13de eeuw gerekend mag worden en waarschijnlijk niet lang meer ná 1300 gebruikt werd. De plaats van herkomst zal men in de Belgische Maasvallei moeten zoeken.

Een zeer bijzonder stukje, dat beslist niet tot de normale produktie van de pottenbakker gerekend mag worden, is weergegeven in fig. 6. Een achtkantig bakje, 9 cm hoog, bestaande uit ongeglazuurd rood aardewerk. De diepte van de uitholling bedraagt 5 cm, de diameter gemiddeld 7 cm. Een rijk versierd stukje, dat er door zijn plastisch ornament aantrekkelijk uitziet. Naar analogie mogen we het als een olielampje beschouwen; van het drijvertje met het pitje werd uiteraard niets teruggevonden. Hier en daar verraadt een zwarte plek, dat het pitje wel eens tegen de rand heeft gelegen. De datering van een dergelijk stuk geeft altijd moeilijkheden; toch zou men het eerder omstreeks 1300, dan tegen het midden van de 14de eeuw verwachten.

Fig. 7 brengt o.a. drie stukken rood aardewerk met slibversiering, die uit het tegenwoordige Noord-België afkomstig moeten zijn. De musea van Mechelen, Antwerpen, Brugge

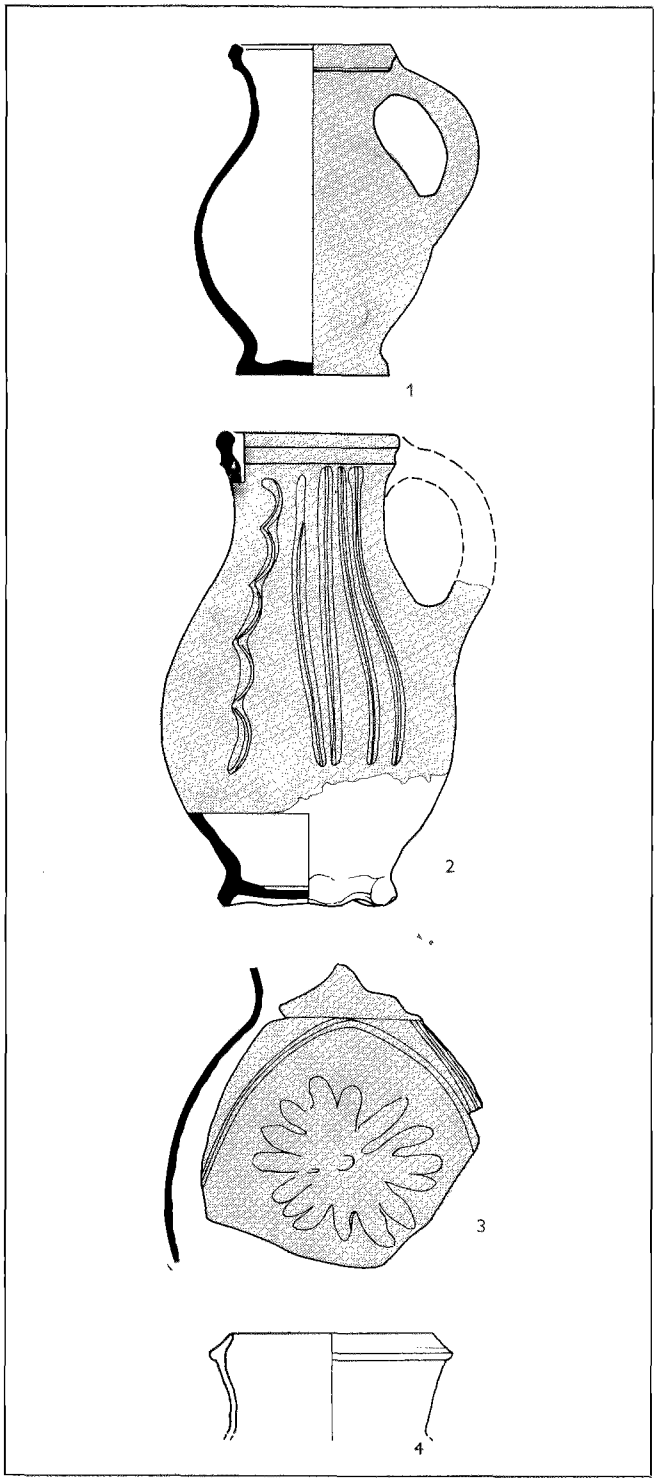


Fig. 7. Oosterwijk. Rood aardewerk

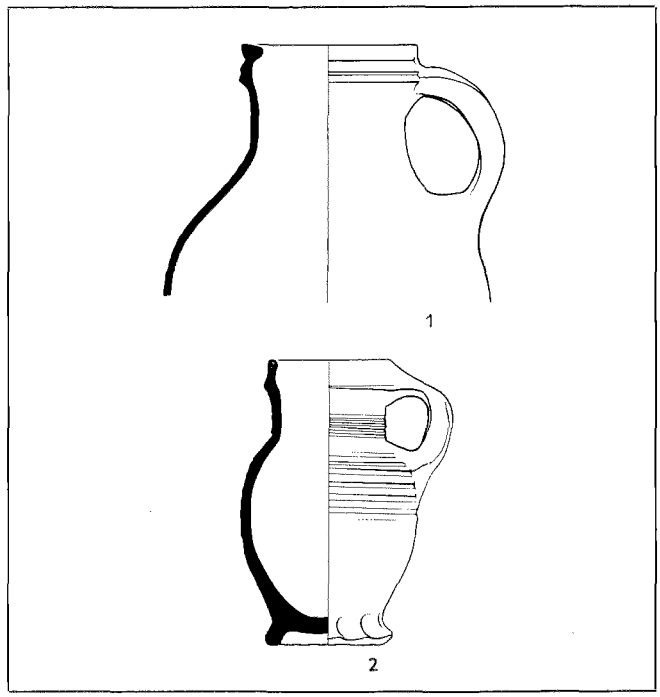


Fig. 8. Oosterwijk. Steengoed

en Gent bevatten een aardige collectie van dit materiaal. Misbaksels en werkplaatsen met afval zijn echter tot op heden niet gelokaliseerd, zodat we vooralsnog in het duister tasten omtrent de juiste plaats van vervaardiging. Het kannetje nr 1 bestaat uit rood aardewerk, maar werd vóór het glazuren overtrokken met een slib van witbrandende klei. Hier en daar komt de rode wand er even doorheen, zodat het voorwerp er bijzonder aantrekkelijk uitziet. De hoogte bedraagt 17.7 cm.

De kan nr 2 (hoogte 25.2 cm) is voorzien van een randprofiel, dat weer net even afwijkt van wat we gewoonlijk bij ons materiaal aantreffen. De wand is versierd met een plastisch ornament: opgelegde verticale strips van witbrandende klei, die onder het loodglazuur een gele tint krijgt. Een van de strips – men notere, dat de andere zijde van de kan op overeenkomstige wijze versierd werd – heeft de potter door duimindrukken gegolfd. Ook uit andere vindplaatsen, waar de voorwerpenchronologie in de tweede helft van de 13de eeuw aanvangt, kennen we het rode aardewerk met de opgelegde strips, driehoekig van doorsnede.

Nr 3 vormt helaas slechts een fragment van een kan, zodat we ten aanzien van essentiële details zoals het randprofiel

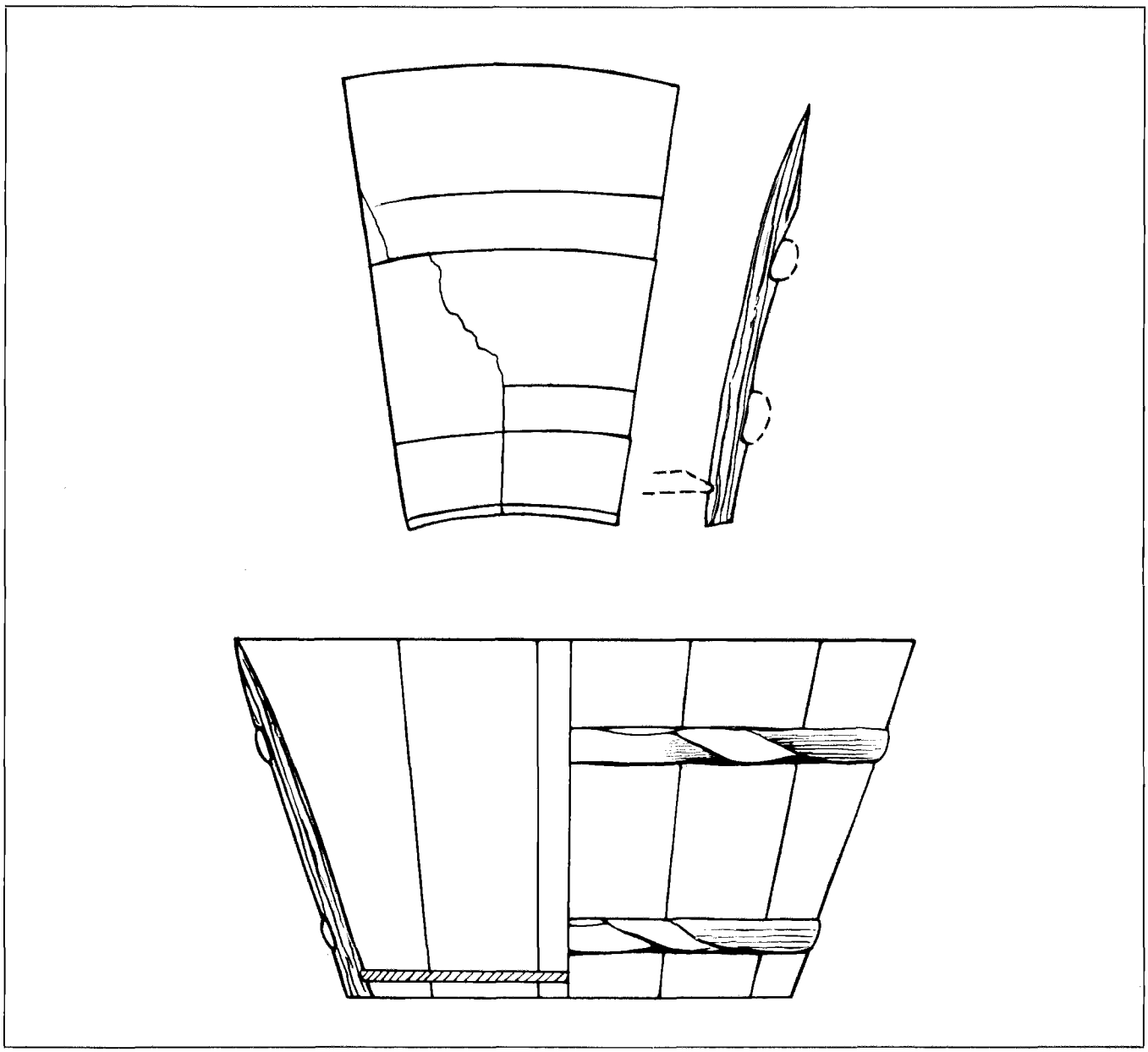


Fig. 9. Oosterwijk. Duigje van houten drinkschaaltje, met reconstructie van het gehele voorwerp. Schaal 1 : 1

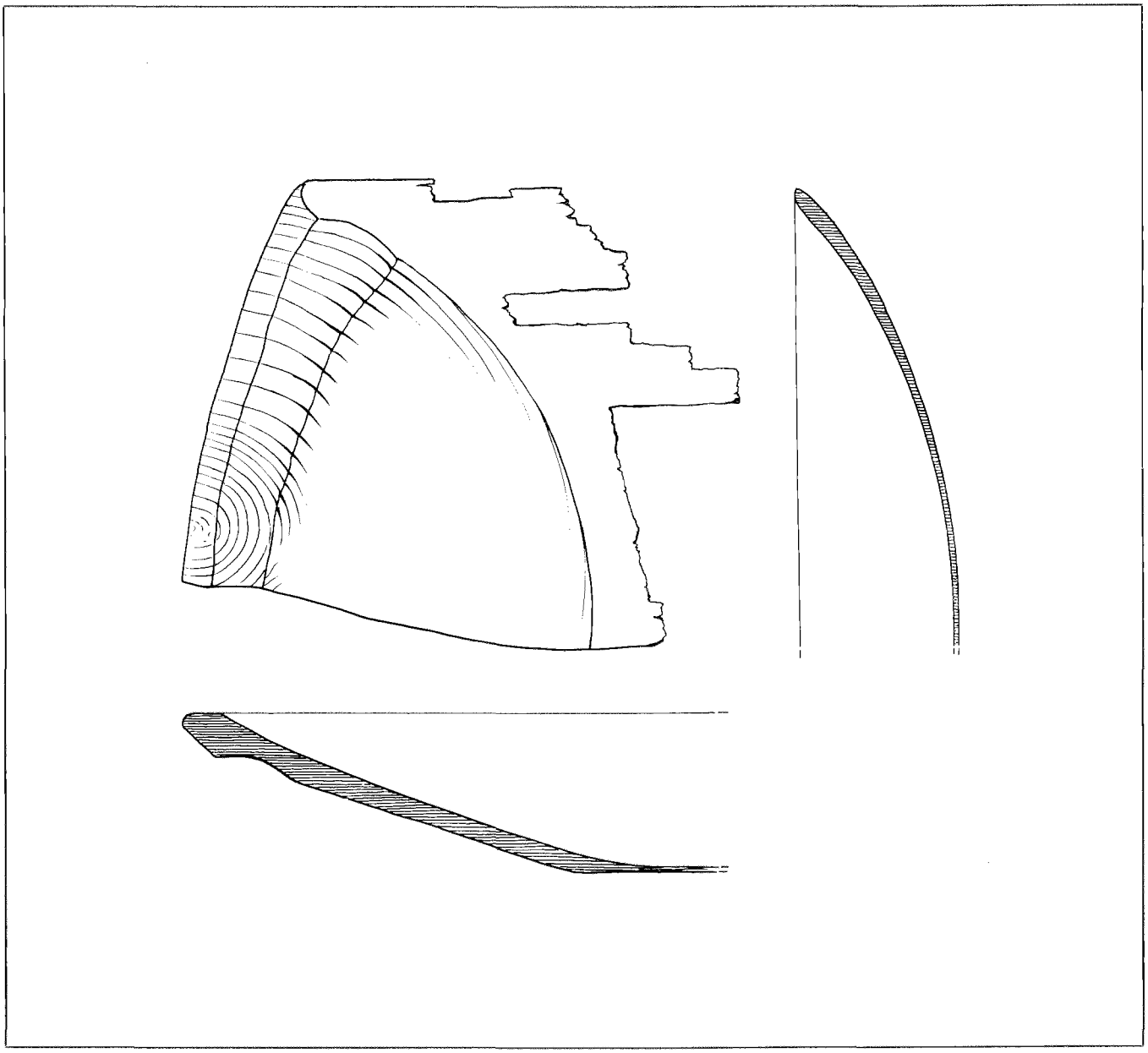


Fig. 10. Oosterwijk. Brokstukken van een houten trog (schaal 1 :4)

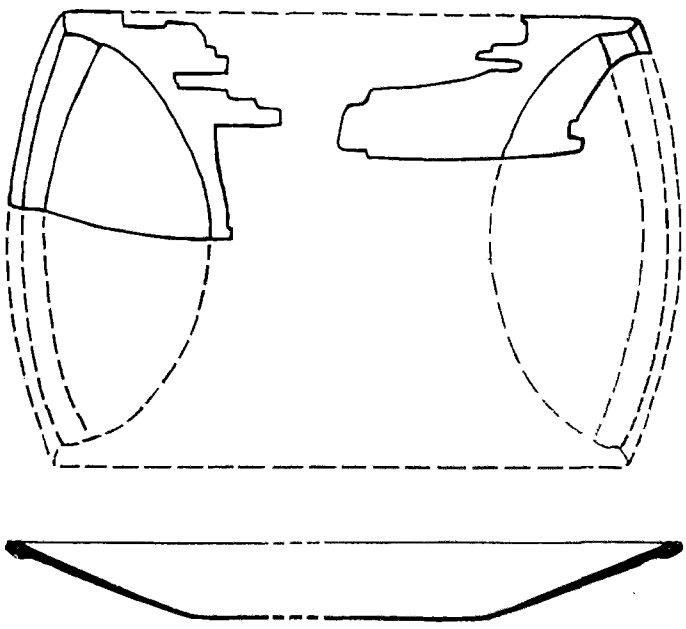


Fig. 10a. Oosterwijk. Reconstructie van de houten trok (schaal 1 : 10)

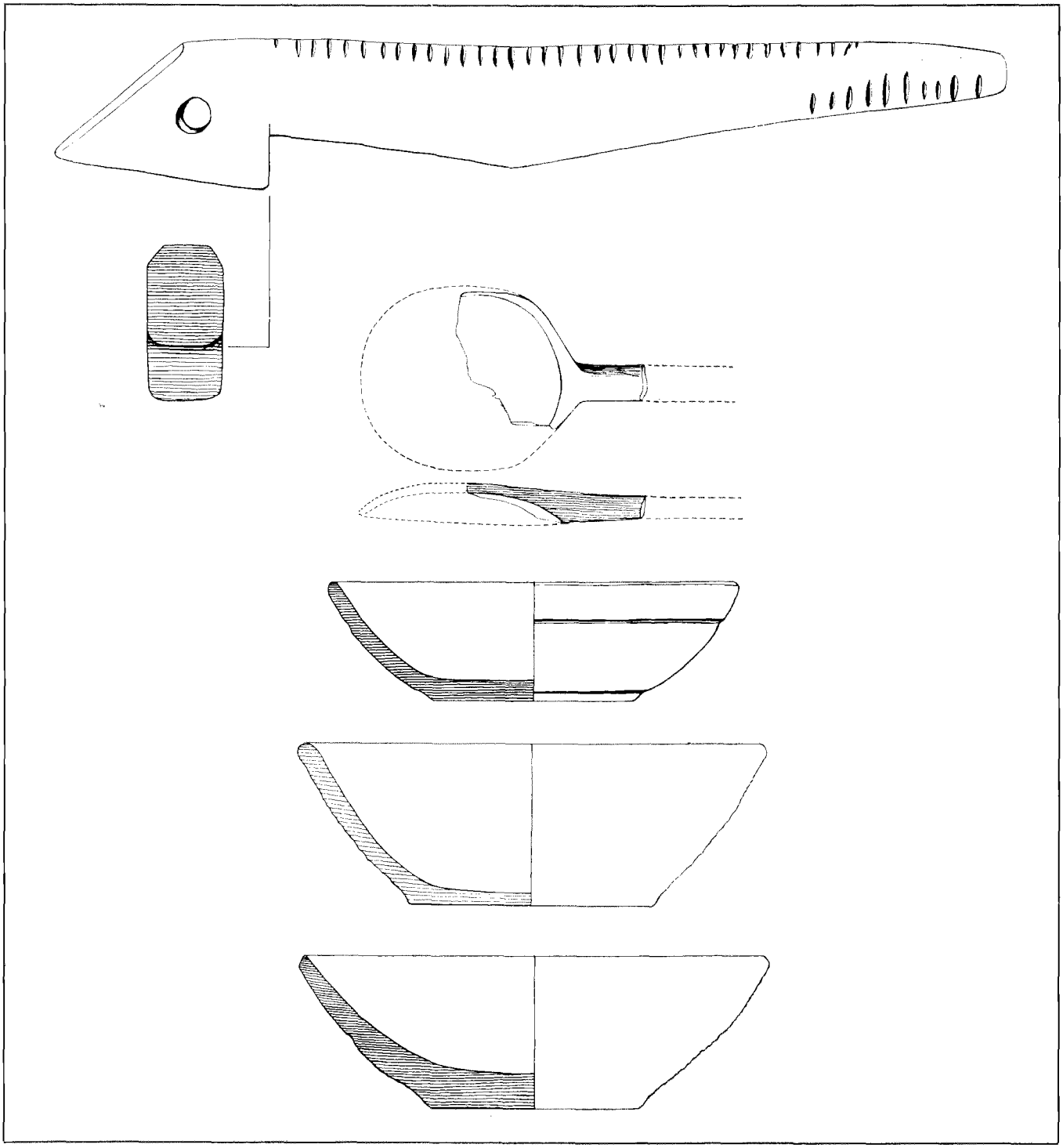
in het duister tasten. De bloemblaadjes, van witbakkende klei, zijn als dunne plakjes op de wand gedrukt. Het hart is aangegeven in roodbakkende klei. Ook voor de strip, die het ornamentvlak afsluit heeft de pottenbakker zijn gewone, roodbakkende klei gebruikt. Maar de verticale strips, die tenslotte de omtrek van de kan in duidelijk afgescheiden vakken verdeeld moeten hebben, zijn weer van witbakkende klei vervaardigd. Overigens vinden we voor dit bloemornament directe parallellen in de musea van Mechelen en Gent.
Een merkwaardig halsfragment werd agebeeld in fig. 7: 4. Het dakvormig afgeschuinde randprofiel behoort – dat moet gezegd worden – tot de normale profielen. In dit fragment wijkt echter de verhouding rand-hals wel sterk af van wat we gewoonlijk zien. Waarschijnlijk hebben we in dit geval te maken met een halspartij van een uit Brabant of Vlaanderen ingevoerd stuk met slibversiering, dat inderdaad getuigt van een afwijkende vormentaal.
Voor het volgende hoofdstuk, het steenwerk, nog even terug naar fig. 5. Onder nr 5 werd afgebeeld een fragment van een drinkbeker van okerkleurig aardewerk, hard gebakken en overtrokken met een sterk ijzerhoudende leempap, die het voorwerp een dof oppervlak met een donkerbruine kleur heeft gegeven. Een wandscherf van een dergelijke beker werd reeds besproken in het boven aangeduide artikel.
Zoals uit de tekening van het onderhavige fragment blijkt, heeft de pottenbakker de voet van de draaischijf gesneden. Er valt aan toe te voegen: met een koperdraad. De karakteristieke groefjes aan de onderzijde van de voet laten op dit punt geen twijfel. Buiten het afgebeelde fragment zijn er nog wat kleinere brokstukken van voeten verzameld. Men krijgt de indruk, dat dit soort bekers, daterend uit de jaren om 1300, rijkelijk onder het drinkgerei op Oosterwijk vertegenwoordigd was. We kennen deze vormen ook uit Brunssum-Schinveld en Langerwehe, terwijl het nog niet duidelijk is, of Siegburg deze bekers in de geregelde productie had opgenomen. In ieder geval moet men vaststellen, dat deze bekervorm tot het gemeengoed van de gehele 'pottenbakkersprovincie' tussen Rijn en Maas heeft behoord.

STEENGOED

Fig. 8 brengt twee stukken onder de aandacht, die beide geregeld voorkomen. Het fragment van de kan met het sterk gelede randprofiel herinnert ons aan een goede bekende. Een stuk, dat in het midden van de 13de eeuw tot de normale productie behoorde en dat zo tegen het einde van die eeuw van de markt schijnt te verdwijnen. Het onder nr 2 afgebeelde kannetje (hoogte 15.2 cm) komt ook in de eerste tientallen jaren na 1300 nog wel voor. Het kannetje heeft een naar het roodbruin gaande kleur; aan de binnenzijde valt te constateren, dat ook in dit geval een ijzerhoudende leempap op de wand is aangebracht; de kleur van het baksel zelf kan men het beste aanduiden met: okerkleurig.

VERDERE GEBRUIKSVOORWERPEN

Na de behandeling van gebruikelijke vondsten komen we tot de categorie gebruiksvoorwerpen, die veel zeldzamer wordt aangetroffen en die bij een opgraving onder moeilijke omstandigheden ook heel gemakkelijk over het hoofd wordt gezien nl. houten huisraad. De oplettendheid en voorzichtigheid van de Beverwijkse amateurs heeft ons in staat gesteld enige interessante stukken te tekenen en te publiceren, al zijn deze stukken dan ook slechts fragmentarisch tot ons gekomen en al moeten zij nog steeds – wachtend op het juiste conserveringsmiddel – onder water bewaard worden.
Fig. 9 toont het duigje van een drinkschaaltje, dat was



Afb. 11. Oosterwijk. Diverse houten gebruiksvoorwerpen. Schaal 1:2

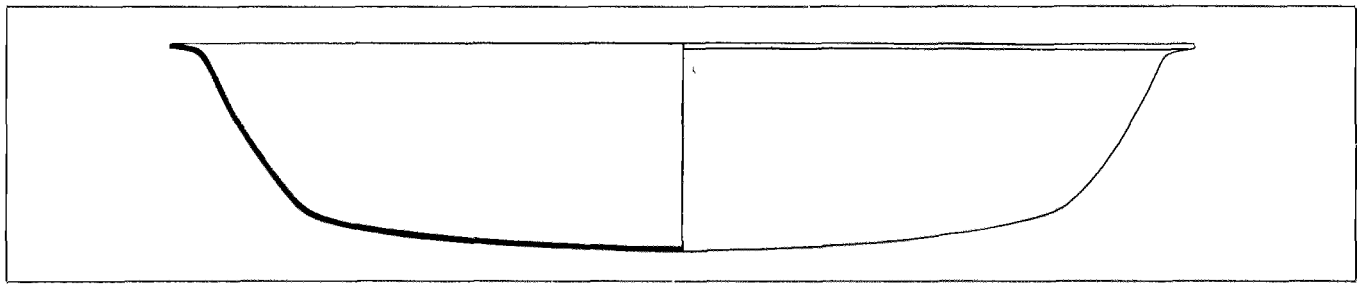


Fig. 12. Oosterwijk. Bronzen schaal. Schaal 1 : 2

samengesteld uit duigjes van 7 cm hoogte en gemiddeld 5 cm breedte. Zij liepen vanzelfsprekend taps toe, zodat genoemde vijf centimeter een gemiddelde maat is. Twee groeven dienden om de wilgenteentjes houvast te geven, die de duigen tezamen hielden. Van een dergelijk 'hoepeltje' was juist nog een gedeelte met de knoop bewaard gebleven, zodat we konden constateren hoe de methode van binden zich tot in onze dagen gehandhaafd heeft. Ook van de bodem werd een brokstuk teruggevonden. Al met al een fragiel stukje drinkgerei, dat men nauwelijks in de handen van onze middeleeuwse Jannen en Berends zou verwachten. Dr. W. Neugebauer heeft – bij de opgravingen in Lübeck – het grote geluk gehad heel wat exemplaren van deze drinkschalen in vrijwel gave toestand terug te vinden. Ook in Skandinavië blijken zij tot het veel voorkomende huisraad te hebben behoord.

Brokstukken van een heel ander voorwerp werden in fig. 10 zo goed en zo kwaad als het ging in een tekening samengevoegd. Het geheel vormt een kleine houten trog, wellicht gebruikt voor het maken van deeg voor pasteitjes. Een voorwerp, dat in de keuken thuishoort en daar een lange geschiedenis heeft gekend. Zoals vele gebruiksvoorwerpen onderging het praktisch geen vormveranderingen; er zijn in feite geen principiële verschillen aan te wijzen tussen deze trog uit de eerste helft van de 14de eeuw, zijn voorgangers en de latere.

Fig. 11 vertoont in de eerste plaats een voorwerp dat men op het eerste gezicht voor een tentharing zou houden (lengte 32.5 cm). Waarschijnlijk is het iets anders; niettemin ontgaat mij de bedoeling ervan. Het fragment van een gesneden lepel behoeft nauwelijks een nadere toelichting. Blijven over de drie gedraaide bakjes, die de suggestie wekken, dat zij mooi gaaf uit de grachtmodder te voorschijn zijn gekomen. Dat is vanzelfsprekend niet het geval. Meestal is het hout erg zacht en moet met de meeste omzichtigheid behandeld worden. Door de gronddruk, in de gracht gevallen puin enz. werd het voorwerp veelal reeds vóór de ontdekking door de archeoloog dermate beschadigd, dat men in het beste geval een aantal brokstukken in handen krijgt, die slechts in een tekening te completeren vallen. Wanneer we de oude rekeningen mogen geloven werden deze schaaltjes bij honderdtallen door de houtdraaier vervaardigd en geleverd aan de hoven van de Graaf van Holland, de Bisschop van Utrecht of de Hertog van Gelder. Het kleinste exemplaar (diameter 14.5 cm; hoogte 4 cm) is wellicht als drinkschaal gebruikt. Tenslotte dan de zeldzame vondst, die in fig. 12 afgebeeld is: een schaal vervaardigd uit een koperlegering, waarschijnlijk samengesteld uit koper en zink (latoen). Het voorwerp, met een middellijn van 27 à 28 cm en een diepte van 5.5 cm werd uit een plaat van ruim 1 mm dikte gehamerd. Aan de onderzijde van de rand zijn de sporen van het uithameren nog duidelijk waarneembaar. In de rondingen werd het metaal wel heel dun, zodat daar dan ook door slijtage gaten zijn ontstaan. In de bodem bevindt zich een oude reparatie van een scheur. De schaal behoort tot de zogenoemde hanseschalen, waarvan de met graveringen versierde exemplaren een grote bekendheid en een uitvoerige behandeling in de litteratuur hebben verkregen. Wellicht hebben we hier nog te doen met een exemplaar uit de tijd tussen 1250 en 1300; de latere exemplaren zijn over het algemeen wat dieper. In ons land kwamen van die latere vormen enkele goed te dateren exemplaren voor de dag bij het onderzoek van het huis te Heemskerk – te plaatsen tussen circa 1325 en 1350 – en bij dat van het Huis te Merwede, die in ieder geval uit de jaren vóór 1421 moeten stammen.

Zusammenfassung.
Im Jahrbuch 1960–1960 (Berichten 10–11, 1960–1961) ist die Ausgrabung der Burg Oosterwijk veröffentlicht worden ('Oosterwijk in Kennemerland, pp 508–538). In den Jahren nach 1960 ist allmählich eine Siedlung entstanden um das Gelände der mittelalterlichen Burg. Den Burggraben hat man ausgehoben und die wenigen Überreste der Burg so einigermaszen konserviert. Im Burggraben haben sich in der Nähe des Abfluszes der Aborte viele Scherben und sonstige Gegenstände aufgefunden, die aus den Zeiten zwischen 1250 und 1350 stammen müssen. Zwar sind die stratigraphischen Verhältnisse in einem Graben meistens nicht klar und zuverlässig, aber in diesem Falle darf man im Allgemeinen annehmen, dasz die Funde dem angegebenen Jahrhundert entstammen. Wir wissen, dasz die Burg im Jahre 1351 zerstört worden ist; die Wiederherstellung hat die alten Aborte nicht wieder instande gesetzt und benutzt. Das Fundmaterial enthält wie üblich sehr viel Keramik (Fig. 1–8), Holzsachen (Fig. 9–11) und Bronze (Fig. 12).
Die Keramik läszt sich unterbringen in die Gattungen:
a blaugraue Ware;
b rote, teilweise glasierte Töpferware;
c Steingut und Steinzeug.
a Blaugraue Ware; Fig. 1; Fig. 2: Nr 1, 2 und 3; Fig. 3: Nr 1 und 3; Fig. 4: Nr 8. Es handelt sich um Kochgerät, Wasserkanne (Fig. 4, Nr 2) und Vorratsgefäsze. (z.B. Fig. 1, Nr 1; H. etwa 36 cm.) Einige Stücke zeigen das sogenannte 'Besenstrichmuster', z.B. Fig. 2, Nr 2.
b Die rote Töpferware ist dargestellt in Fig. 2, Nr 4; Fig. 3, Nr 2; Fig. 4, Nr 1 und 3; Fig. 5, Nr 1, 2, 3 und 7; Fig. 6; Fig. 7.
Die Pfanne Fig. 4, Nr 1 ist ein recht typisches Stück, Innenseite glasiert, dasz besonders in den westlichen Gegenden daheim ist; vielleicht gehört diese Pfanne noch im 13. Jahrh. Das Oellämpchen dagegen musz man bestimmt recht spät, wohl um 1500 ansetzen, während Fig. 5, Nr 7, ein Dreibeintopf, sogar erst im 16. Jahrh. entstanden sein kann. Die Kanne Fig. 2, Nr 4 gehört im Gegenteil wahrscheinlich noch im 13. Jahrh.
Eine sehr interessante Gruppe bilden Fig. 8, Nr 1, 2 und 3. Die Ornamente aus weiszbrennendem Ton weisen nach Flandern hin. Die Museen zu Mechelen, Antwerpen, Brügge und Gent besitzen schönes Vergleichsmaterial. Auch die Ausgrabungen zu Aardenburg haben ähnliche Stücke zutage gebracht.
Steingut ist vertreten durch Fragmente von Trinkbechern (Fig. 5, Nr 5), gefärbt mit stark eisenhaltigen Tonschlick. Fig. 8 zeigt das Fragment einer Steinzeugkanne des 13. Jahrhunderts; die kleine Kanne wird um 1300 zu datieren sein. Fig. 9, 10 und 11 bringen Holzsachen, wie sie z.B. Dr W. Neugebauer in Lübeck gefunden hat; meistens in einem viel besseren Erhaltungszustand. Fig. 12 schlieszlich zeigt eine Bronzeschale aus den Jahrzehnten um 1300. Die Innenseite hat man leider nicht mit Gravierungen verschönert.

G.C. DUNNING[1]

Medieval Pottery and Stone Mortars Imported to Aardenburg from England and France

The purpose of this article is to publish and to discuss a number of pottery jugs and two stone mortars found at Aardenburg. All these finds are imported to the Netherlands, either from England or from France, and demonstrate some of the trade connexions of Aardenburg in the 13th and early 14th centuries.

It is fortunate that the greatest expansion of medieval trade occurred in the late 13th century, because this period coincides with the great development of pottery, both in England and on the adjacent parts of the continent of Europe. At that time the pottery was highly decorated, and regional styles can usually be distinguished from one another.

In order that pottery may be used to demonstrate medieval trade, it is necessary that the material should fulfil three premises:

1 The pottery must be distinctive in style of decoration and in fabric.

2 It must be readily distinguishable from the pottery of the country to which it was sent.

3 The sources of the pottery must be known or definable within limits.

In practice it is usually possible to satisfy the third premise fairly easily, due to the strong regional characteristics of pottery. Though the actual kilns producing the pottery may not always be known (as in the case of the 13th century pottery of Normandy), the distributions of particular types or of styles of decoration in their homeland can usually be relied on to give a reasonably close indication of the sources of production.

I should like to express my warm thanks to Mr. and Mrs. Trimpe Burger for their great kindness and hospitality during my stay at Aardenburg in September 1965.

1 Inspectorate of Ancient Monuments, Ministry of Public Building and Works, London.

POTTERY IMPORTED FROM ENGLAND

1. *Part of knight-jug.*

Pl. XXIV: 1. Tubular spout and front part of a jug found in excavations in Aardenburg (precincts of gas-works) in 1965.

It is made of buff sandy ware, and originally the outside was entirely covered with lustrous dark green glaze, which has now mostly flaked off. On one side of the spout is the figure of a horse, with one of its ears touching the spout. The head and neck are modelled in the round and free-standing, but the body merges into the surface of the pot. A scar on the other side of the spout shows that another horse occupied this position.

The fragment belongs to a jug with elaborate plastic decoration of knights mounted on horseback, which are among the most highly ornamented pottery made in England. The finest example is the jug found in Nottingham, one of the main centres of production of knight-jugs about the turn of the 13th and 14th centuries.[2] The Nottingham jug, 35.6 cm high (pl. XXV), has a pair of mounted knights on each side of the tubular spout. The lower zone of the decoration represents a stag hunt; here three stags are being chased and attacked by four hounds. The knights and horses are modelled separately and then applied to the spot; the stags and hounds are in low relief. The composition and details are seen better in the extended drawing (fig. 1), in which all the figures are shown as nearly as possible in the correct relative positions, as projected on to a plane surface. The theme of the composition, as here expressed in a plastic medium, is clear; it represents the manly pursuits of warfare and the chase, both held in high esteem in the Middle Ages.

Another centre producing knight-jugs was at Scarborough,

2 Dunning 1955.

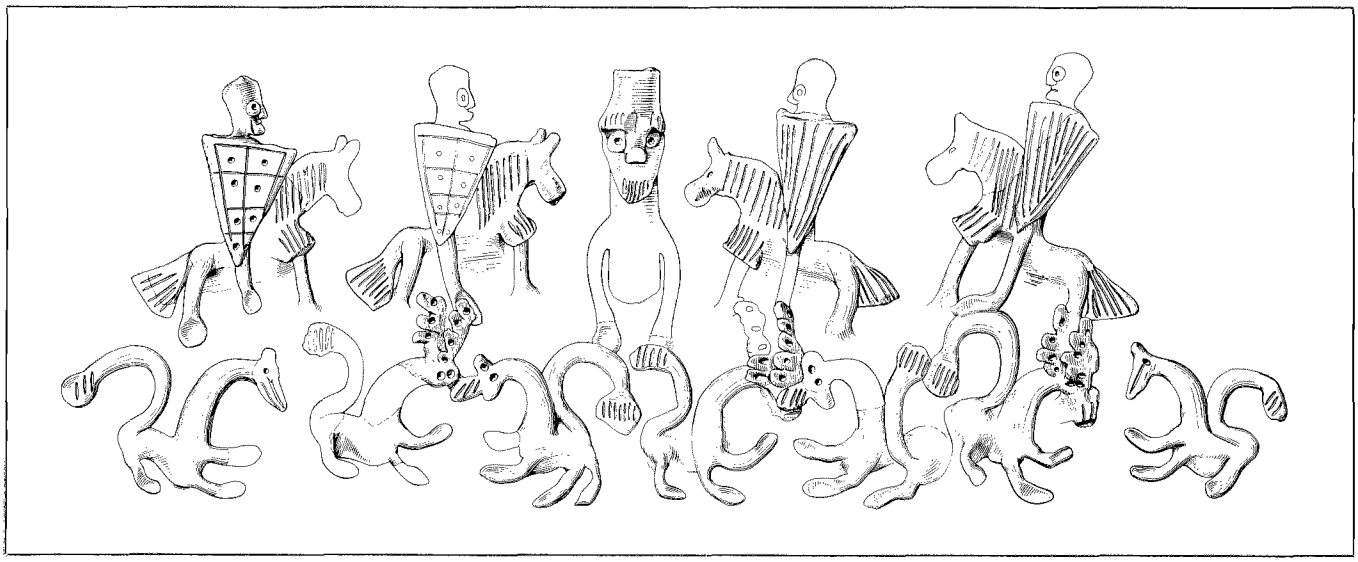


Fig. 1. Decoration of knights and stag hunt on the Nottingham jug

Yorkshire.[3] It is by no means easy to distinguish between the knight-jugs made here and at Nottingham. The stylistic links are very close, as though the same family of potters worked at both places. However, the fabric and glaze of the Aardenburg find indicate that it was made at Nottingham rather than Scarborough.

Yet a third source for knight-jugs was at Grimston, near King's Lynn (p. 201). Large pieces of a knight-jug made here have been found in excavations at King's Lynn.[4] The style is clearly derived from the jugs at Nottingham and Scarborough, but the figures are laid on the neck and body of the pot in flat strips, not in high relief, and they are very elongated. Part of a Grimston knight-jug, almost a duplicate of that from King's Lynn, has been found at Bergen (Bryggen excavations).

The Nottingham and Scarborough knight-jugs were sent to East Anglia and to south-east England. Examples have been found at Cambridge,[5] at Walberswick, Suffolk, in London, and at Dartford, Canterbury and Stonar, Kent.

As well as at Bergen, fragments of knight-jugs have been found in Norway at Borgund (human head from a spout)[6] and at Oslo. These finds were probably made at Scarborough.

On the Continent the only other example of a knight-jug, found in Bruges, is in the Gruuthuse Museum, Bruges (pl. XXIV : 2). This is the upper part of a jug made of light yellow ware, covered overall with dark green glaze. On each side of the neck were two figures of knights carrying long, pointed shields and mounted on horses. The long tubular spout is surmounted by the head of a woman wearing a small cap. She wears on her breast an annular brooch with four settings for jewels.

The knight-jugs are thus distributed along the east coast of England (fig. 2) and crossed the North Sea to Norway. The two found at Aardenburg and Bruges no doubt were carried to these places by the wool trade.

2 *Jug of Grimston ware*

Fig. 3. Large jug found to the south of St. Bavo's church in 1955. It has already been published in the *Berichten.*[7]

3 Rutter 1961, 16, fig. 2: 8.
4 Parker 1965, 101, fig. 27.
5 Rackham 1948, 8, pl. 12 A.
6 Herteig 1957, 30, fig. 13.
7 Trimpe Burger 1962–3, 506, afb. 14.

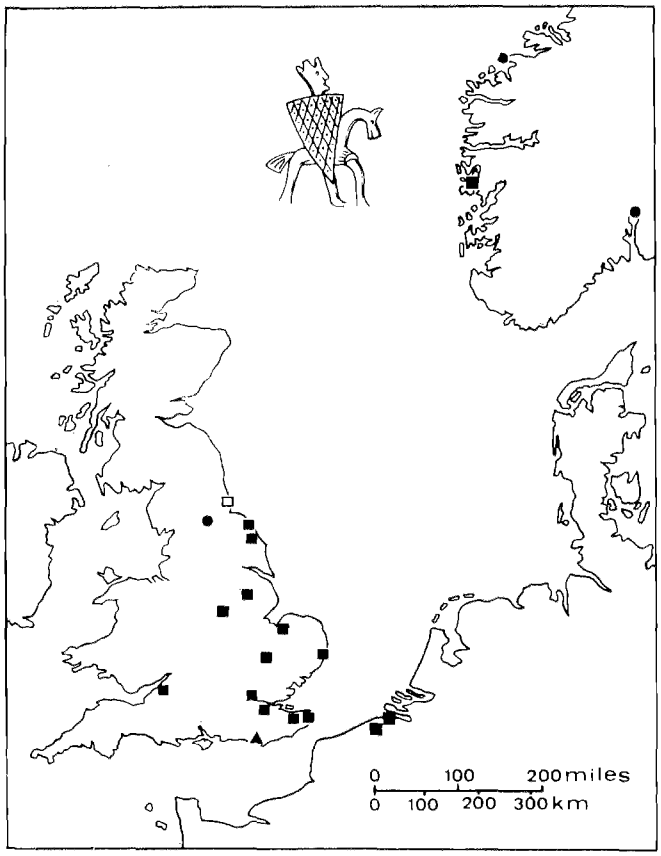


Fig. 2. Distribution map of knight-jugs

- knight-jug
- figure spout
- aquamanile

The jug is made of light grey ware, with thin white layers nearer the surface. The outside is uniformly light red. It is glazed from the rim to below the bulge; the glaze is green with brown speckling and streaks.

This capacious jug, 41 cm high and 31.8 cm in diameter, has a short vertical neck, an ovoid body, and a broad sagging base plain at the basal angle. The rim is moulded, with a sharp cordon on the neck below it. Attached to the rim is a small bridge spout. The surface of the upper part and bulge is lightly rilled or corrugated, corresponding to the wheel-marks on the inside.

The handle is stoutly made, oval in section, with grooves down the back. At the junction of the handle with the neck its sides are market by large thumb-impressions.

The jug is an import from England, and general parallels have already been quoted in the *Berichten*. However, it is now possible to be more specific. Large jugs of this type are most characteristic of the pottery centres in the Midlands and Yorkshire; for instance, at Nottingham,[8] where the jugs seldom have bridge spouts, and at Scarborough,[9] where the jugs have the shapes and the bridge spouts of the form represented at Aardenburg.

The fabric of the Aardenburg jug shows that it was not made at either of these places. The fabric is typical of a large quantity of kiln-material found at Grimston, near King's Lynn,[10] where several types of jug were made, including face-jugs, which were traded in East Anglia,[11] to London, and to Stonar in Kent. The industry here appears to have started in the 12th century and continued until the 14th or 15th century. All the features of the Aardenburg jug can be matched at Grimston on one type of jug or another, and it is therefore identified as made here, probably in the late 13th or the early 14th century.

3 *White ware from Surrey*

Fig. 4. Base of jug found in excavations in the Oude Vlasmarkt in 1962.

The base. 12 cm in diameter, is made of off-white sandy ware. The underneath is splashed with mottled green glaze grading to light green at the edges of the patches. The edge of the base is marked all round by thumb impressions which support the pot. The base is also firmly thumb-marked underneath, each mark corresponding with the deep mark on the side. This is a widespread feature of English medieval pottery, recently discussed by Mr. J.G. Hurst.[12]

The ware is typical of much potery made in Surrey and supplied in quantity to London[13] and to places in the Home Counties, for instance the manor of Northolt, Middlesex.[14] The white Surrey ware was also distributed down the Thames to places in north and east Kent, such as Faversham and Stonar, near Sandwich.

8 Standish & Fellows 1904, 55, pls. II-III.
9 Rutter 1961, 10–2, fig. 1, types 2 and 4.
10 Wilson & Hurst 1964, 296.
11 Herteig 1959, 182, pl. XIII B.
12 Hurst 1962–3, 295, compare with fig. 93: 3.
13. London Museum, *Medieval Catalogue*, 1940, 226, pl. LXIV: 2–3.
14 Hurst 1961, 273, fig. 72: 29.

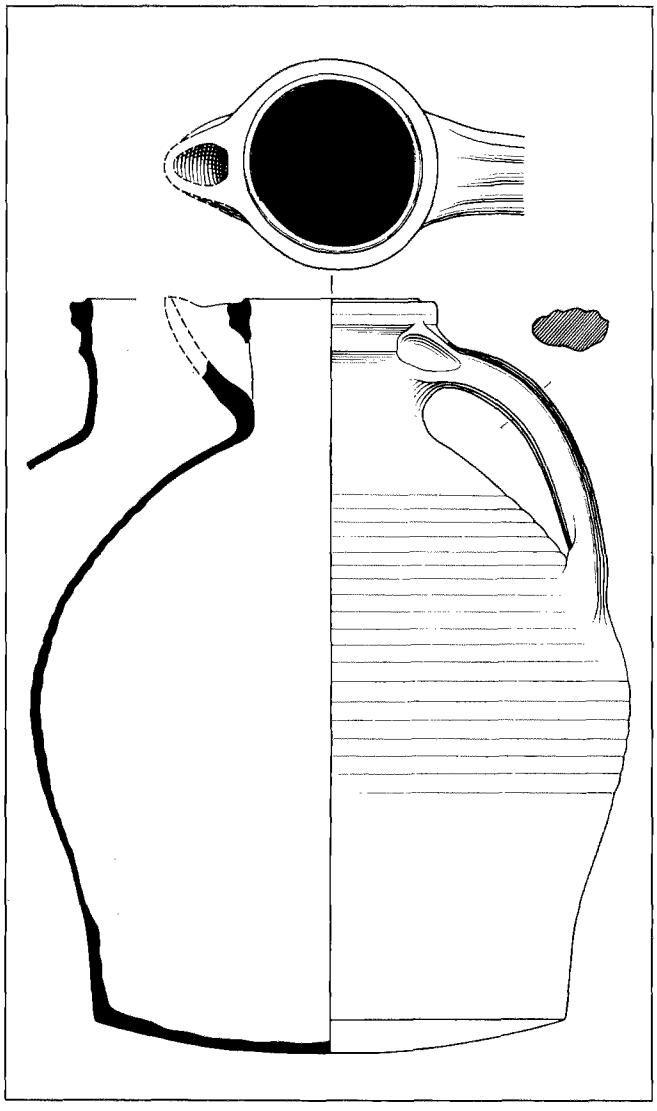


Fig. 3. Jug of Grimstone ware. Gemeentelijk Museum, Aardenburg, inv. no. 55–SB 201

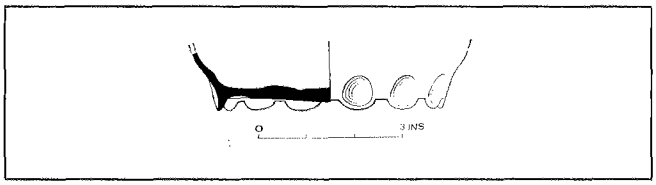


Fig. 4. Base of jug of white ware from Surrey. Gemeentelijk Museum, Aardenburg, inv. no. 62–Ovl 128

The base found at Aardenburg probably belonged to a large ovoid jug with a slashed strap-handle. Jugs of this type, many with red-painted designs on the body, were made at the kiln found at Cheam, Surrey (fig. 5).[15]
White Surrey ware begins in the late 13th century and covers the whole of the 14th century; the Aardenburg pot may be ascribed to *c.* 1300–1350.

POTTERY IMPORTED FROM FRANCE

1 *Normandy*

Fig. 6. Three joined sherds found in excavations in the Weide Quataert in 1961. A short report and a photograph have already been published in the *Berichten.*[16]
The fragment is made of fine white ware, with thin light yellow glaze covering the decoration. The jug is elaborately docorated with applied strips and pellets, forming a chevron pattern on the upper part of the body. All the strips and most of the pellets are rouletted with square notches made by a roller stamp. The background of the pattern is filled by dark red slip (shaded horizontally in the drawing), and the design is limited below by two girth grooves.
The jug is an import from Normandy in the late 13th century. The finest collection of comparable pottery is in the Musée des Antiquités at Rouen.[17] The majority are large jugs, up to 30 cm high, decorated on the neck and body with applied strips and pellets, and panels of dark brown or red slip which emphasize the elements of the pattern.
The shape of the jug to which the Aardenburg fragment belonged is restored in fig. 6, based on jugs of this type with similar decoration found at Southampton and at Lydford Castle, Devon. Usually the pellets are plain, but rouletting on them does occur at Rouen and also on the jug from Lydford Castle.
In Normandy highly decorated jugs of this quality are found at Caen and Evreux, as well as at Rouen. There is a series of similar jugs at Paris. It is probable, however, that the majority of the jugs found in England and elsewhere on the Continent were exported from Rouen. No kilns producing these jugs are yet known in Normandy.
The trade in Normandy jugs was most intense across the English Channel to ports, towns and other places along the

15 Marshall 1924, 79–94, fig. 12.
16 Trimpe Burger 1962–3, 503, afb. 10.
17 Barton 1965, 73–85.

south coast of England (fig. 7).[18] Finds are also numerous in east Kent, particularly at the port of Stonar, near Sandwich, and at London. The trade also passed up the east coast ar fas as Yorkshire and county Durham. Normandy jugs have now been found at 26 places in England, and once in Ireland (Dublin).

Apart from single finds at St. Omer (Pas de Calais) and at Aardenburg, there is at present a bank on the map until Denmark is reached. Here the main port was Kalundborg (6 sherds), and there are single finds at Odense and Svendborg. The pottery also reached southern Sweden, with numerous sherds found at Lund, and fewer finds at Östra Tommarp and at Ragnhildsholmen (Bohuslän).

2 *Saintonge*

Fig. 8. Sherds of the rim, spout and handle of a jug found in excavations in the Weide Quataert in 1962, in Pit II.

It is made of fine white ware, yellow toned on the surface. The outside has a lustrous mottled green glaze, which covers the spout and handle and also the top of the rim.

The jug has a flanged rim, bevelled on the inside, above a short neck. At the front is a large bridge-spout attached to the rim and neck, and on the opposite side is a wide strap handle, with two grooves down the back, also attached to the rim.

The rim is 14 cm in diameter, and the jug can be restored as ovoid in shape, about 17 cm high.

Fig. 9. Numerous sherds of a jug found in excavations in the Oude Vlasmarkt in 1962.

The jug is made of fine white ware, yellow toned on the outside surface. It is almost entirely covered by a lustrous mottled green glaze. The glaze extends from the rim and covers the neck, handle, and body down to the base. On the lower part of the body the glaze is, however, thinner and more patchy.

The jug has a moulded rim and a sharp cordon 1.8 cm below it. The neck is vertical and the profile gradually widens into the ovoid body. The base (missing) would be plain and flat, rising underneath at the centre. The handle is wide and strap-like, with two grooves down the back, and it extends in a curve from the rim to just above the maximum diameter of the body.

18 The trade was active already in the late 11th and early 12th centuries, when red-painted pottery was exported to many places in England. See Dunning 1958 and Dunning a.o. 1959, 62–71, figs. 34–37. These early exports from Normandy have also been found in Denmark and southern Sweden.

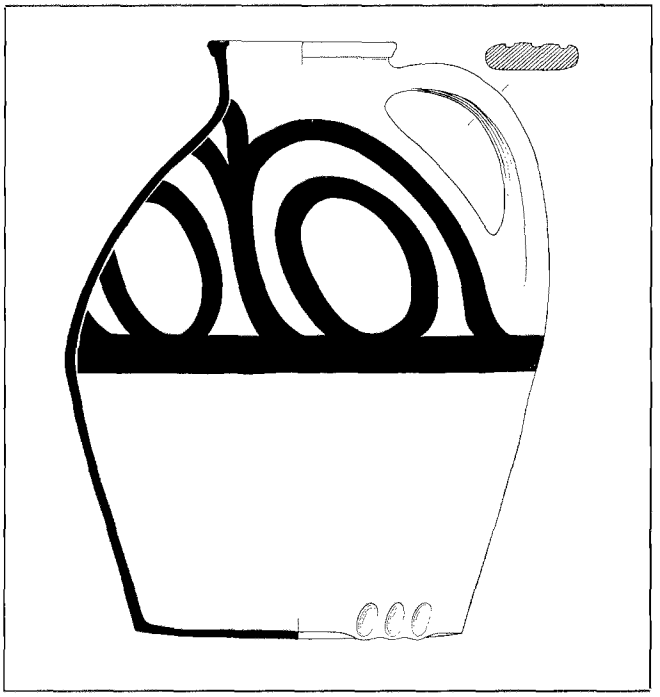


Fig. 5. Red-painted jug from the pottery kiln at Sheam, Surrey. Cheam Museum

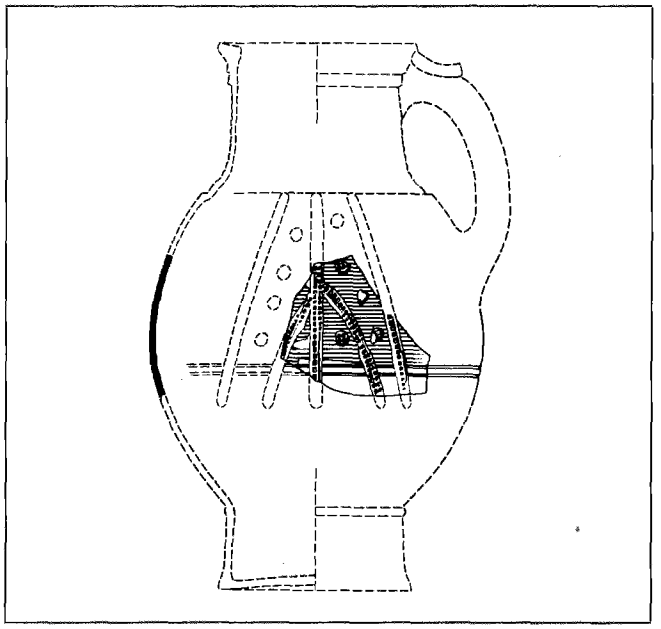


Fig. 6. Restoration of jug imported from Normandy. Gemeentelijk Museum, Aardenburg, inv. no. 61–Q 31

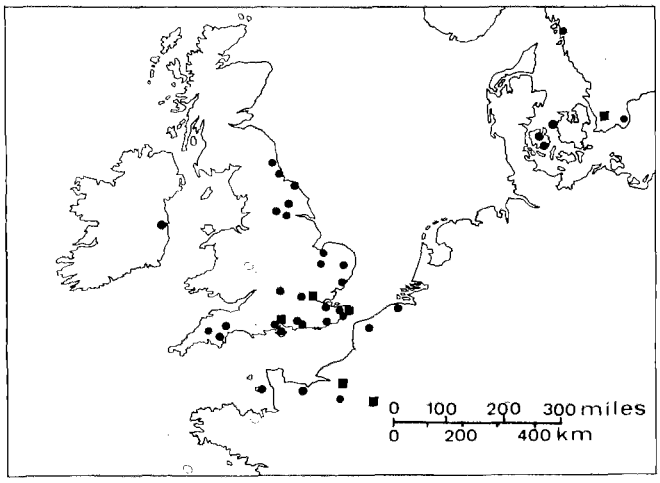


Fig. 7. Distribution map of 13th-century Normandy jugs

- 1–5 finds
- 10 or more finds

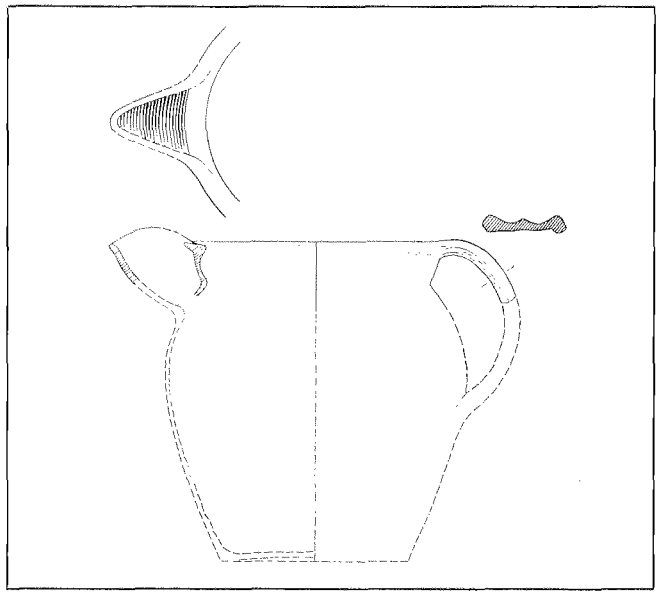


Fig. 8. Jug imported from Saintonge. Gemeentelijk Museum, Aardenburg, inv. no. 62–Q 291

The decoration covers the neck and body of the jug, and comprises 10 zones of combed grooves, made while the pot was being turned on the wheel.

The pot would have a large bridge-spout (of which a small part is preserved) projecting well beyond the rim and neck. The fragments permit the size of the jug to be determined; it was 17.4 cm in maximum diameter and about 28 cm high.

Fig. 10. Sherds of a second jug from the same site as fig. 9. It is made of similar white ware, yellow toned on both surfaces. The glaze, mottled light green on the upper sherds, thins out and ends 6–7 cm above the base. A patch of glaze is also present on the inside of the base.

This jug is also decorated with zones of combed lines, but its shape differs from that of fig. 9. It is a slender barrel-shape, 14.2 cm in diameter and probably at least 30 cm high. It would have a bridge-spout and a strap handle like fig. 9.

These three jugs are imports from western France, where the pottery industry flourished in Saintonge. At La Chapelle-des-Pots, 4.8 km north-east of Saintes, several pottery kilns have been excavated.[19] The products of these kilns are broadly divided into:

1 Polychrome ware, decorated with leaf scroll patterns, or

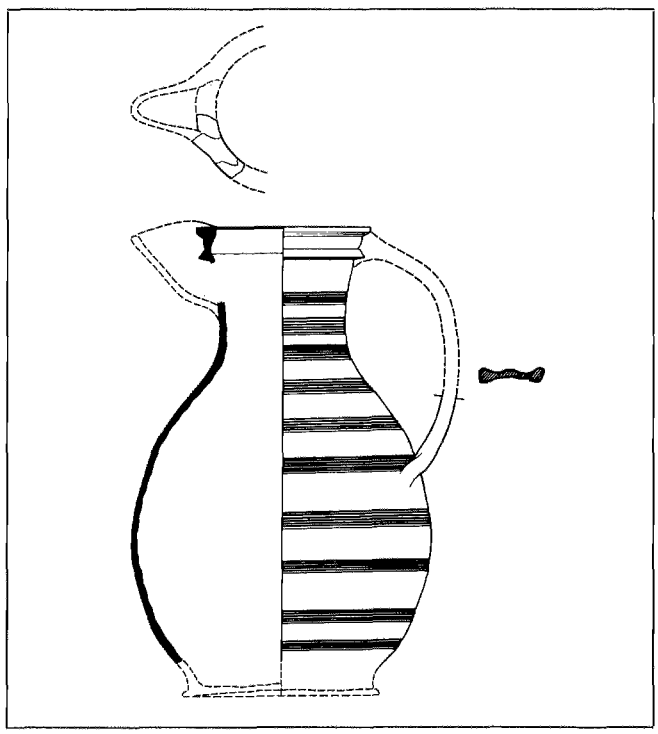


Fig. 9. Jug imported from Saintonge. Gemeentelijk Museum, Aardenburg, inv. no. 62–Ovl 129

19 Barton 1963.

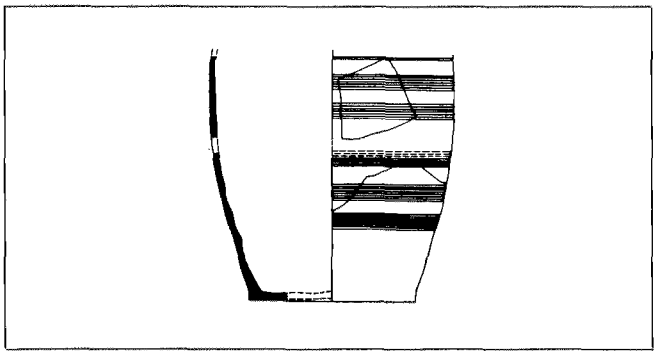


Fig. 10. Lower part of jug imported from Saintonge. Gemeentelijk Museum, Aardenburg, inv. no. 62–Ovl 129

birds and shields, painted in green and yellow and outlined in dark brown.[20]

2 Green-glazed jugs of the ovoid and barrel-shaped types found at Aardenburg. Frequently these jugs are decorated with zones of combed lines, or applied strips running vertically down the side, or they may be plain. These jugs may reach 32 cm high.

3 Jugs similar to those of group 2 but the ware is thicker and the glaze is very mottled. The decoration consists of applied strips on the body, usually notched by a tool, or large conical bosses.

Saintonge pottery was exported in quantity through the ports of Bordeaux or La Rochelle. The trade in this luxury pottery has been associated with the great wine trade of Gascony, and it is possible that the jugs were intended to serve wine at the tables of rich merchants in other countries. The trade in pottery appears to have begun in the early 13th century, certainly it flourished in the late 13th century, and continued to some extent during the 14th and 15th centuries. The painted polychrome ware has been found at about 46 sites in the British Isles (32 in England, 9 in Wales, 2 in Scotland, and 3 in Ireland). It can be dated very closely to the period *c.* 1280–1300 from its occurrence at castles with a limited period of occupation.[21] Polychrome ware has not yet been found in the Netherlands, but the long-distance trade in this pottery is shown by its finding at Göteborg in Sweden and at Bergen in Norway (Bryggen excavations).

20 Fox & Radford 1933, 114–8, 124–34. For other styles of Saintonge pottery see Barton 1963, 207, fig. 3.

21 Dunning 1961, 5.

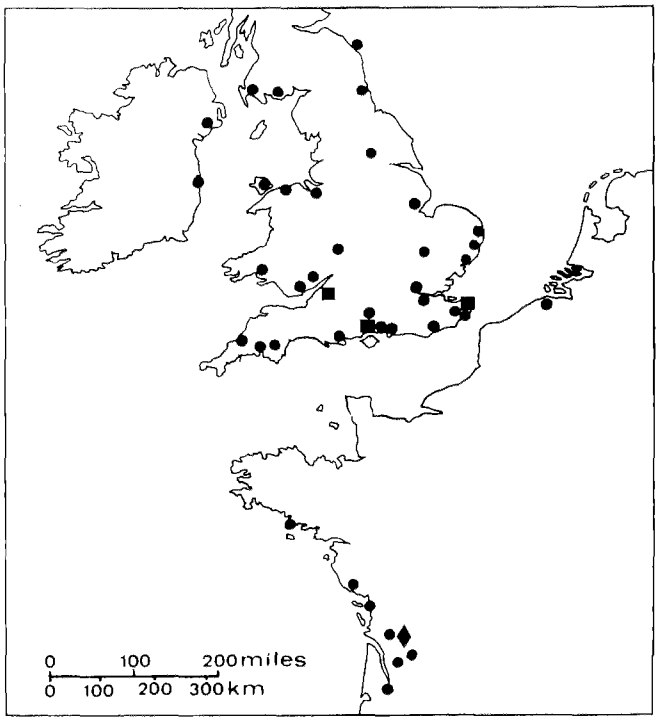


Fig. 11. Distribution map of 13th-century green-glazed ware of Saintonge

- kiln site
- 1–5 finds
- 10 or more finds

The eight green-glazed jugs found at Aardenburg belong to types well represented in the British Isles. The greatest number of finds are at the large ports (Bristol, Southampton, and Stonar in east Kent). In general the pottery is found at towns, castles, and ecclesiastical sites such as abbeys, on or close to the coasts (fig. 11).

The date of the Aardenburg jugs is shown by the association of these types with polychrome ware at several sites in Britain; they therefore belong to the late 13th century.

OBJECTS OF STONE IMPORTED FROM ENGLAND AND FRANCE

1 *Mortar of Purbeck marble*

Fig. 12. About one-third of a stone mortar found in Aardenburg; the exact find-spot is not known.

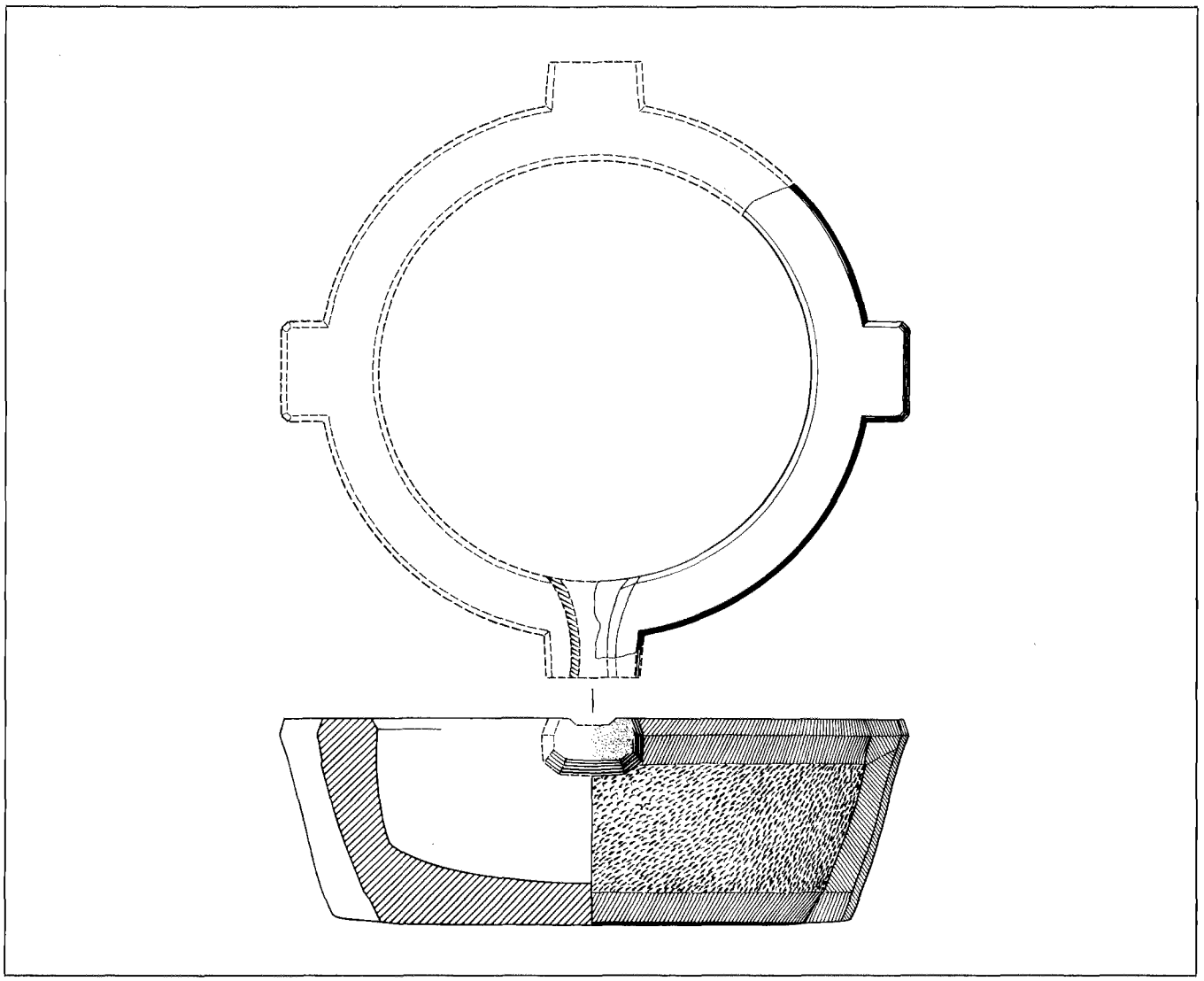


Fig. 12. Mortar of Purbeck marble. Gemeentelijk Museum, Aardenburg

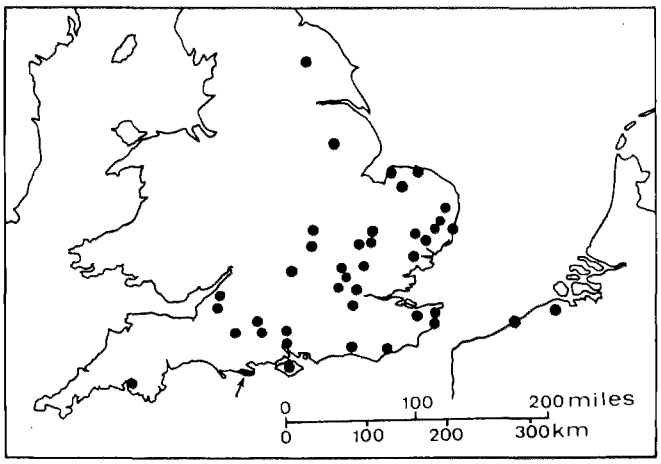


Fig. 13. Distribution map of mortars of Purbeck marble

The mortar is 33 cm in diameter at the rim and 12.7 cm high. It has a flat rim and two rectangular lugs at rim-level. One lug is a spout, and has a runnel in the top; below the other lug is a flat rib down the side to the base. The complete mortar would have four such lugs, spaced equi-distant round the rim, as restored in the drawing.

The outside of the bowl is tooled in zones round the rim and the base, between which the surface is rough and pecked. The side lug and its rib are also tooled by a chisel. The inside surface of the bowl is polished and smoothed by wear.

The stone is grey Purbeck marble containing numerous fossils of the freshwater snail *Viviparus*. The rock occurs between Swanage and Corfe in the Isle of Purbeck, Dorset, on the south coast of England. It was extensively quarried in the medieval period from the 12th century onwards, for the production on a large scale of building materials such as columns and capitals, and also effigies.[22] The structural and monumental use of Purbeck marble is well seen in Westminster Abbey and in Salisbury Cathedral.

The stone mortars may be regarded as a side-line of the industry. Most of those found in dated contexts belong to the 13th century, and a few to the 14th century.[23]

Mortars made of Purbeck marble are known at 38 sites in England, demonstrating an active trade inland from Purbeck and also by sea along the English Channel (fig. 13). Several mortars have been found in the region of London, near the coasts of East Anglia, and as far north as Lincoln and Byland Abbey, Yorkshire.

The only other mortar of Purbeck marble as yet known on the Continent was found in one of the hamlets on the coast of West Flanders near Ostende,[24] which were destroyed by the sea in the tempest of 1334. This example (in the Musée d'Histoire Locale, Ostende) is the lower part of a large mortar, 30.5 cm in diameter at the base. Is has prominent ribs on oppositie sides, as on the mortar from Aardenburg.

It may be noted that a few mortars of Purbeck marble have square bases instead of the usual circular shape, and five others have large pierced handles instead of solid lugs and ribs. Pierced handles are quite inappropriate to Purbeck marble, which is a fissile stone, and the handles would easily be fractured and broken off in use. These exceptional features suggest influences derived from the imported mortars of Caen stone, described in the next part.

2 *Mortars of Caen stone*

Fig. 14. Complete base and part of the side and handles of a stone mortar found in Aardenburg; the exact find-spot is not known.

The base is square, 18.2 cm each way, and the bowl shows zones of tooling made by a chisel. The stone, originally white, is discoloured grey and suggests that the mortar was burnt in a fire after the breakage of the upper part.

The complete form of mortar is shown by a fine example found at Middelburg, in the Zeeuws Museum (figs. 15, 16 and pl. XXIV : 3).

The mortar is 33 cm in rim diameter, 22.2 cm high, and the base is 25.3 cm square.

The mortar at Middelburg shows all the characteristics of this type. The spout is very carefully shaped, incurved at the sides, with a shoulder or cusp at the junction with the rim. The runnel in the top is a sharply-cut V in section. A similar spout (partly broken) is on the opposite side of the rim.

The large handles project markedly beyond the sides of the bowl, and each is pierced by a small elongated hole. The handles are long, extending from the rim to the base. In section the handles are diamond-shaped.

The tooling on the bowl is in horizontal zones, forming a continuous chevron or triangle pattern with a decorative effect.

22 An account of the Purbeck marble industry will be published by the Royal Commission on Historical Monuments (England), in the *Inventory of Dorset*, Vol. 2.

23 Hurst 1961, 279–84, figs. 74–5.

24 Chocqueel 1950, 89, pl. II, middle of bottom row.

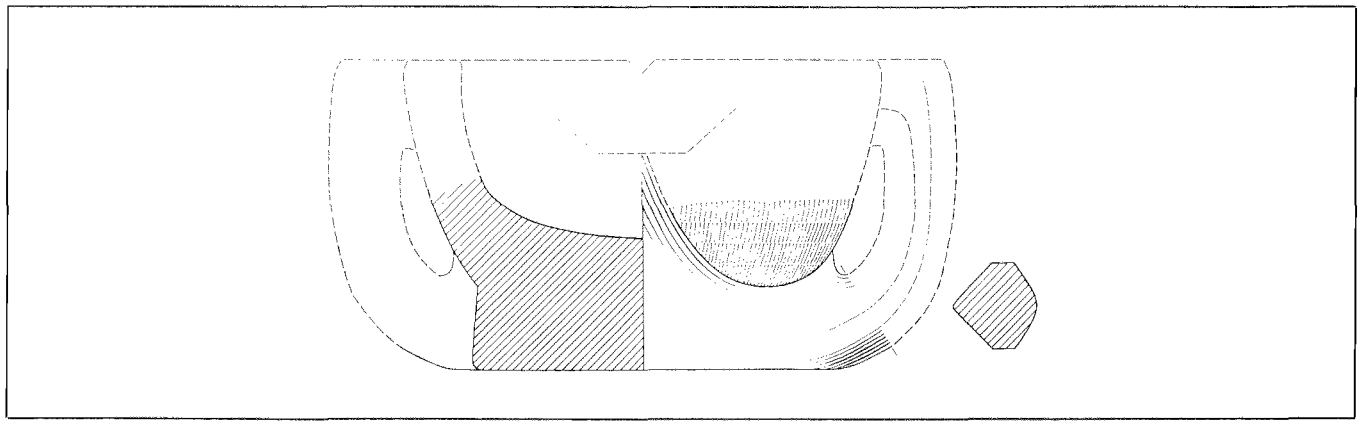


Fig. 14. Base of martar of Caen stone. Gemeentelijk Museum, Aardenburg

The stone of these mortars is the fine white limestone quarried at Caen in Normandy, and intensively exported to England as building material in the medieval period. The quarries at Caen and in the neighbourhood have been investigated by Professor M. de Boüard, of the University of Caen. In the quarry at La Maladrerie the layer of stone begins at 1 m below the surface and was exploited to a depth of about 20 m.

In character the mortars of Caen stone are a precise exercise in solid geometry, and sometimes it is possible to make out the stages in which the mason carved the mortar out of a cubical block of Stone. On one face of the block circles for the rim were inscribed by compasses, and segments of one of these circles can still be seen on the top of the Middelburg mortar (fig. 15, upper view). These circles have been noticed only twice previously, on mortars from Dover Castle and Dunwick, Suffolk.

The square for the base would be set out on the opposite face of the block by scribing lines parallel to its edges. The angles of this square are thus vertically below the position of the spouts and handles. The base of the Middelburg mortar is unique in showing other lines (fig. 16) dividing it into four smaller squares and also connecting the four angles; these lines would be guides to the mason in cutting down the block of stone to shape the bowl, the spouts and the handles. The inside of the bowl is always very regularly made, suggesting that this part was cut out on a lathe.

The date of mortars of Caen stone is given by examples from three of the sites in England (Southampton, Canterbury and Portslade, Sussex), which were found in association with pottery of the late 13th century. The Aardenburg and Middelburg mortars may thus be referred to *c.* 1300. It should be noted that at Caen Castle Professor de Boüard has found mortars in contexts of later date, which probably shows that the mortars continued to be made for several centuries.

The distribution of mortars of Caen stone and of mortars of the same type but made of other though similar stone (probably a limestone of the Ile de France), is shown in fig. 17. The area of the source of the stone in the region of Caen is shaded.

In France there are mortars at Rouen, Paris (Musée Carnavalet), Laon, Verdun, Amiens and Boulogne.

In England the mortars are known at 13 sites along the south and east coasts, ranging from Southampton and Winchester to King's Lynn.

In Belgium there are examples at Bruges (Gruuthuse Museum), adjacent to the finds at Aardenburg and Middelburg.

Long-distance trade across the North Sea carried mortars of Caen stone to Copenhagen and as far as Bergen (Bryggen excavations).

Thus like the pottery described above (p. 205) the mortars of Caen stone show the intensity of trade between Normandy and England in the 13th century, and its extent as far as the Netherlands, Denmark and western Norway.

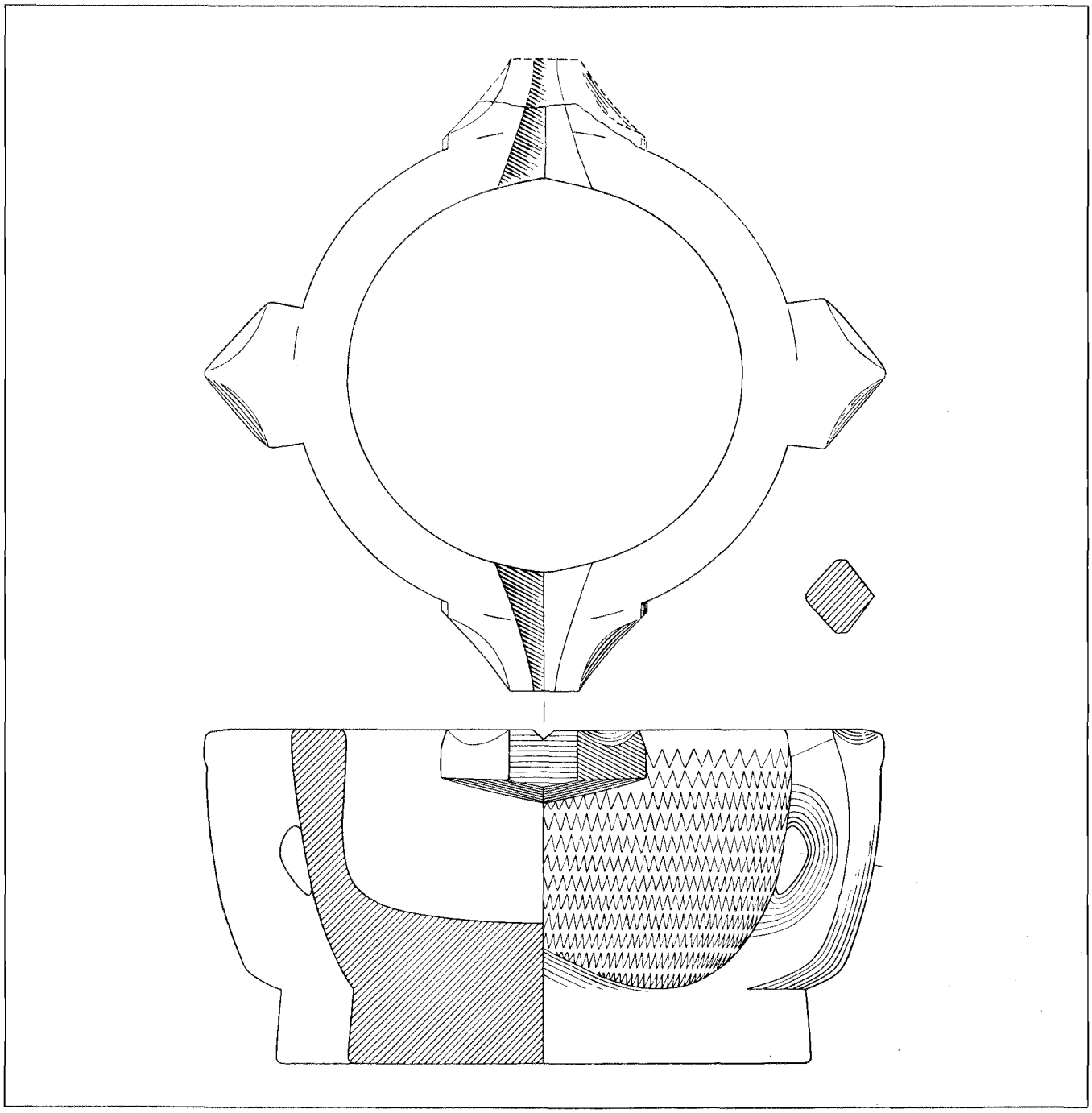


Fig. 15. Mortar of Caen stone found in Middelburg. Zeeuws Museum, Middelburg (*cf.* Pl. XXIV : 3)

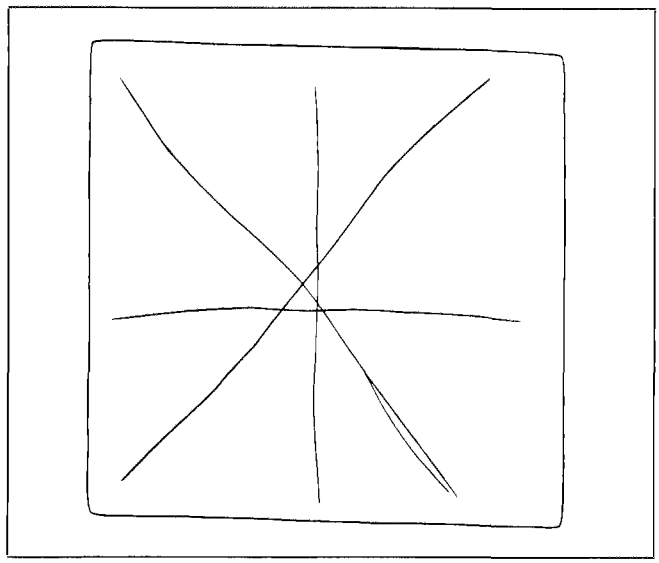


Fig. 16. Base of mortar found in Middelburg. Zeeuws Museum, Middelburg

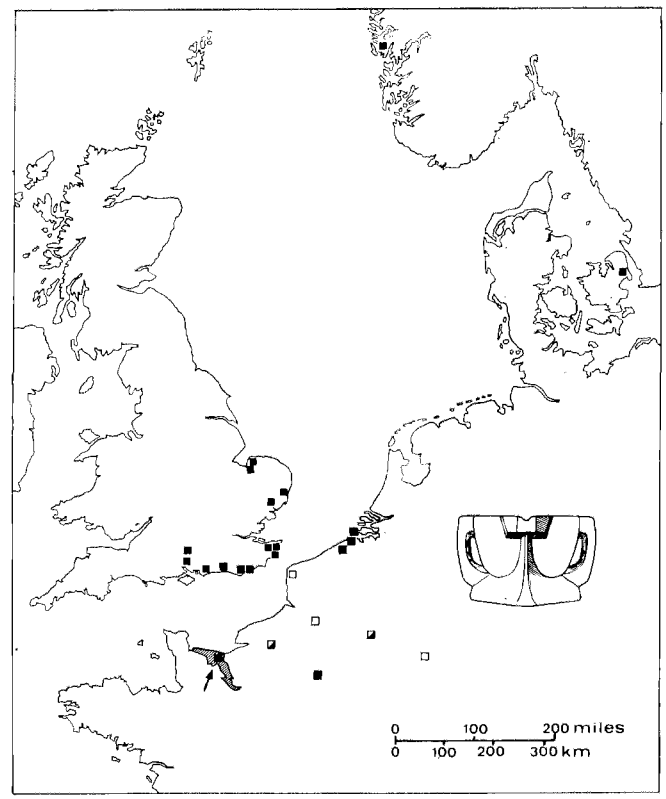


Fig. 17. Distribution map of handled mortars of Caen stone and similar stone

- Caen stone
- other stone
- uncertain

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J.A. TRIMPE BURGER

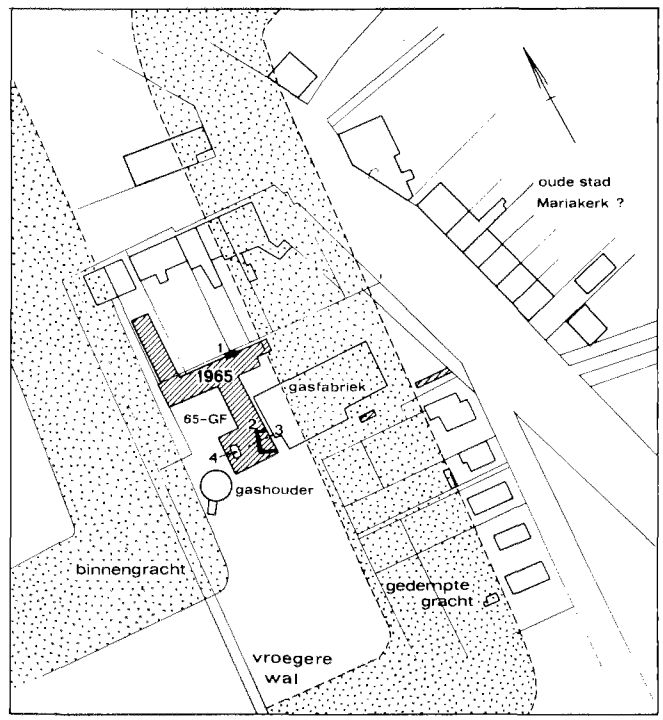
Korte vondstberichten uit Aardenburg II

INLEIDING

Het stadsonderzoek te Aardenburg is in 1965 na een onderbreking van twee jaar voortgezet. Ofschoon door allerlei verwikkelingen een voorgenomen grote opgraving ten zuiden van de St. Bavo, op een perceel weiland dat tegenover het opgravingsproject van 1961–'63 is gelegen, voorlopig niet door kon gaan, heeft een in 1965 daarvoor in de plaats gekomen kleiner onderzoek op het terrein van de Aardenburgse gasfabriek toch ook nog bevredigende resultaten opgeleverd, in het bijzonder weer wat betreft de Romeinse tijd en de latere middeleeuwen (13de en 14de eeuw), in welke laatste periode Aardenburg, aanvankelijk als koopmansstad en later als bedevaartsoord, een plaats van veel betekenis was in Vlaanderen.[1]

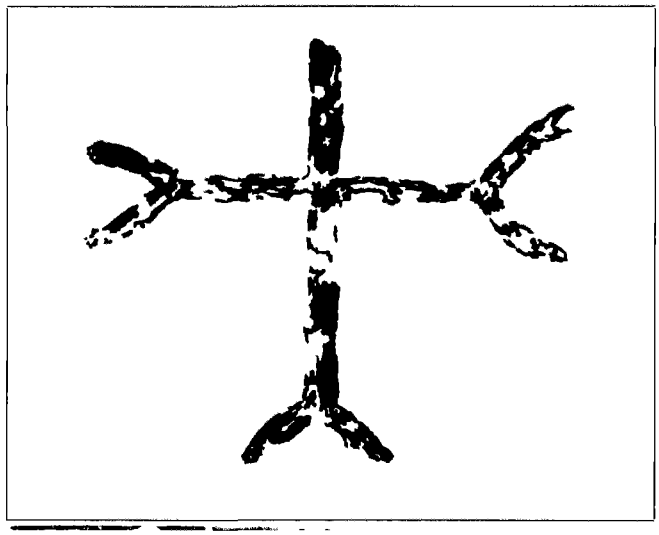
Het opgravingsterrein van 1965 ligt een honderd meter verwijderd van de plaats waar men vermoedt dat vroeger de Mariakerk heeft gelegen. Deze voor Aardenburgs historie zo belangrijke kerk is door prins Maurits bij het aanleggen van zijn vestingwerken in het begin van de 17de eeuw gesloopt. Tijdens de opgraving zijn verschillende bouwfragmenten van het bedehuis teruggevonden.

Het stadsonderzoek te Aardenburg wordt behalve door de tegenwoordige bebouwingen ook grote beperkingen opgelegd door de aanwezigheid van grachten en wallen uit de tijd van Maurits. De grachten zijn zo diep door de oude en voor ons zo belangrijke cultuurlagen heengegraven, dat een opgraving op deze plaatsen totaal geen zin meer heeft. Ook de Aardenburgse gasfabriek ligt op een perceel dat vroeger volledig werd ingenomen door een dergelijke gracht en wal (zie afb. 1). In 1914–'18 is de gracht hier dichtgevoerd door een zekere B. Vermeire, een voerman uit Aardenburg, die er honderden voeren zand in heeft gestort. De vestingwal is van



Afb. 1. Situatiekaartje van de opgravingen in 1965 op het terrein van de Aardenburgse gasfabriek met aanduiding van de ligging van de vroegere of ten dele nog bestaande grachten en wallen van de vestingwerken van prins Maurits uit het begin van de 17de eeuw. Bij 1 de vindplaats van een sarcofaag (zie ook pl. XXVI), bij 2 fundering bakstenen gebouw en vindplaats van de tegels op pl. XXIX: 1 en XXX, bij 3 het profiel van pl. XXVIII, bij 4 laat-14de-eeuwse afvalput

1 Zie Trimpe Burger 1962–3, 497 en de daar vermelde litteratuur.



Afb. 2. Gaffel- of manrunekruis aan de binnenzijde van de sarcofaag op pl. XXVI (hoogte 23 cm); naar een tekening van J. van Hinte

lieverlede geslecht. Voor zover er ruimte buiten de bestaande gasfabriek, gashouder en de vroegere gracht over was, is het terrein zo veel mogelijk onderzocht. De bovengrond, ten dele nog opgevoerd materiaal uit de tijd van Maurits, bevatte zeer veel puin van zowel baksteen als natuursteen, waartussen nog interessante bouwfragmenten van de Mariakerk voorkwamen. Daaronder bevond zich een meer dan een meter dikke laag grond met veel menselijke skeletresten. Het zijn voor het merendeel losse schedels, die soms in groepen bij elkaar, kennelijk waren herbegraven. Ook troffen we in dit niveau enkele bakstenen sarcofagen aan (zie pl. XXVI), vervaardigd uit secundair materiaal (steenformaten van 30, 29 en 26 cm lang). Een daarvan was aan de binnenzijde op het lange einde beschilderd met een rood kruis op een wit vlak (afb. 2). De tussen de schedels in de grond voorkomende aardewerkscherven dateerden uit de 13de en de 14de eeuw. Het was daarbij opvallend dat het 13de-eeuwse materiaal zeer in de minderheid was, terwijl in de onderliggende 'skeletloze' grond wel veel ceramiek uit de 12de eeuw voorkwam. Blijkbaar is dit gedeelte van de vermoedelijk bij de Mariakerk behorende begraafplaats vooral in de 13de eeuw in gebruik geweest.

Zoals dit elders bij het oudheidkundig bodemonderzoek te Aardenburg het geval was, ontbreken cultuuroverblijfselen uit de Merovingische en de Karolingische tijd vrijwel geheel. Totaal anders is dit gesteld met de Romeinse periode. Een 30 tot 50 cm dikke cultuurlaag – met een voor de Romeinse tijd dikwijls zo typische roodachtigbruine kleur – vol met puinresten en fragmenten van gebruiksvoorwerpen, bevestigden wederom dat er in de 2de en de 3de eeuw in Aardenburg iets belangrijks aan de hand moet zijn geweest. In de roodbruine laag werden de grondsporen en het bouwpuin aangetroffen van een aanzienlijk Romeins gebouw. De funderingen hiervan moeten kort na 1000 zijn uitgebroken, te oordelen naar het middeleeuws schervenmateriaal dat in de uitbraaksleuven voorkomt. Evenals Oudenburg in België is Aardenburg in de tijd toen er nog geen baksteen beschikbaar was, als een 'natuursteengroeve' gebruikt, waarbij de vroegere Romeinse gebouwen etc. het moesten ontgelden tot groot ongerief voor het tegenwoordige bodemonderzoek.[2] De aanwezigheid van meerdere rijen paaltjes (soms 4 tot 5 rijen naast elkaar) onder het spoor van de uitgebroken muren (brokjes natuursteen, mortel, pleisterwerk e.d.), neemt echter iedere twijfel weg dat ter plaatse een degelijk gefundeerd gebouw moet hebben gestaan (pl. XXVII). De wijze van funderen, het gebruikte materiaal en het tijdstip van uitbreken, stemmen overeen met de opgravingsresultaten uit de jaren 1961–'63 op een terrein ('weide Quataert') ca. 100 m ten zuiden van de St.-Bavo. Daar werd ook het grondplan van een groot, op palen gefundeerd Romeins gebouw teruggevonden. De afstand tussen de beide bovengenoemde gebouwen bedraagt ongeveer 260 m. Zij dateren beide uit het laatst van de 2de of de eerste helft van de 3de eeuw.

Over de Romeinse en prehistorische vondsten kunnen in dit verband nog geen verdere mededelingen worden gedaan. In enkele hier volgende 'korte berichten', waarvoor deze inleiding bedoeld is, zullen enige vermeldenswaardige middeleeuwse vondsten worden besproken. Bovendien verschijnt er gelijktijdig in deze Berichten een wat uitvoeriger artikel van de heer G.C. Dunning (Inspector of Ancient Monuments, Londen) over middeleeuwse pottenbakkerswaar en natuurstenen mortaria afkomstig uit Engeland en Frankrijk, opgegraven in Aardenburg.[3] We zijn de heer Dunning zeer erkentelijk voor deze interessante bijdrage waarin we ons, dank zij de verspreidingskaarten, een goed idee kunnen vormen over de handelsbetrekkingen die er in de 13de en de 14de eeuw bestonden tussen Aardenburg en de buitenlandse havens langs de Noordzee.

2 Zie Mertens 1958, 20: een monnik van de St.-Pietersabdij te Oudenburg beschrijft tussen 1084 en 1087, dat de oude burcht werd afgebroken en als steengroeve gebruikt. Voorts Van Werveke 1965, 17; De Laet & Trimpe Burger 1964, 61.

3 Dunning 1965–6.

FIGUURTEGELS VAN TERREIN GASFABRIEK

(Afb. 1 bij 2; pl. XXVIII, XXIX : 1, XXX).

Vondstomstandigheden en datering

Uit een van de opgravingsputten op het terrein van de gasfabriek (afb. 1, bij 2) is een aantal vrij zeldzame, vroege tegels (pl. XXIX : 1, XXX) te voorschijn gekomen (Gemeentelijk Museum Aardenburg, inv.no. 65 – Gf 14). Aanvankelijk werd verondersteld dat de tegels afkomstig waren van de Mariakerk en dat zij met grond en puin zouden zijn aangevoerd tijdens de activiteiten van Maurits.[4] Bij het vorderen van het onderzoek is nu wel gebleken dat de tegels in verband moeten worden gebracht met de afbraak/uitbraak van een bakstenen gebouw ter plaatse. De tegels lagen voornamelijk boven in de uitbraaksleuf (pl. XXVII) van dit gebouw dat blijkens het formaat van enkele nog in verband aanwezige, niet secundair gebruikte bakstenen (30–31 x 15 x 7 cm), uit het einde van de 13de of het begin van de 14de eeuw zal hebben gedateerd. Van het bakstenen 'gebouw' kon slechts de fundering van één (buiten-?)vertrek (afb. 1, bij 2) worden opgegraven; het overige moet zijn verdwenen bij het graven van de bouwputten van de diep onderkelderde gasfabriek. Het is dus helaas niet meer mogelijk, vast te stellen wat voor gebouw er in de 14de eeuw gestaan heeft op of aan de rand van het bij de Mariakerk behorende kerkhof. We beschikken over aanwijzingen dat het gebouw reeds in het laatst van de 14de of het begin 15de eeuw is gesloopt. Aardewerk later dan uit deze tijd is noch in de puinsleuf, noch in de omgeving van het gebouw aangetroffen. Bovendien was het mogelijk de uitbraaksleuf ten naaste bij te correleren met een afval/puinput uit deze periode (zie afb. 1 bij 4). Bij vroegere onderzoekingen in Aardenburg is ook meermalen gebleken dat in het laatst van de 14de eeuw overal veel sloopwerk is verricht. We hebben dit al eerder in verband gebracht met het historische gegeven dat Aardenburg in 1383 tweemaal door de Gentenaren o.l.v. Frans Ackerman grondig is verwoest. Deze ramp is de stad eigenlijk nooit weer te boven gekomen.[5] Het hierboven geconstateerde en afgeleide is voor een benaderde datering van de gevonden tegels van belang. De (vloer?)tegels zijn zonder uitzondering zeer afgesleten. Van het merendeel is zelfs niets meer van het versierde oppervlak of van het glazuur overgebleven. Wij mogen daaruit wel de conclusie trekken dat er over de tegels veel is gelopen, vóórdat zij in het laatst van de 14de eeuw buiten gebruik zijn geraakt. Een datering omstreeks 1300, gelijk met de bakstenen van het formaat 31–30 x 15 x 7 cm lijkt ons het meest aannemelijk.

Wat betreft het bakstenen gebouw zelf, vestigen we volledigheidshalve nog de aandacht op de merkwaardige opvulling of ophoging van de vloer aan de binnenzijde van de teruggevonden funderingsresten. De grond is hier, even diep als de onderkant van de fundering, weggegraven geweest door de Romeinse cultuurlaag heen, tot op de vaste zandbodem (zie pl. XXVIII). Na het opmetselen van de muren zijn achtereenvolgens verschillende puin- en grondlagen aangebracht. De onderste daarvan bestaat uit mortel, gemengd met brokken van zogenaamde Paniseliaanse kiezelzandsteen. Deze soort groenige steen, afkomstig uit de streek van Beernem-Torhout (omgeving van Brugge), schijnt in de streek van Aardenburg in de 13de eeuw, vóór de baksteentijd, veel te zijn aangewend, zo b.v. ook in de kerk van het vroeger nabij Aardenburg gelegen en thans geheel verdwenen dorp Hannekenswerve (opgegraven in 1964).[6]

Beschrijving van de tegels

De tegels zijn van een roodbruine kleur; aan de bovenzijde (figuurzijde) zijn zij vooral in de middenpartijen soms wat grijs. De gebruikte klei bevat tamelijk veel fijn zand (afgeronde kwartskorrels); een enkele keer komen grovere insluitingen voor. De tegels zijn gevormd in een vormbakje dat in doorsnede omgekeerd trapezoïdaal was. Na het bakken bedroeg de gemiddelde omvang van de tegels: figuurzijde 12 x 12 cm, de keerzijde 11 x 11 cm; de dikte is zelfs van een en dezelfde tegel zeer ongelijkmatig, gemiddeld ca 2.4 cm. De figuren zijn evenals de omlijsting met behulp van een matrijs voor het bakken er in gedrukt. Daarna is het 1 tot 2 mm diepe 'negatief' opgevuld met een witbakkende klei, welke enigszins rossig-grijs gespikkeld is door het voorkomen van verontreinigingen. Vervolgens is de tegel van een laagje loodglazuur voorzien en gebakken. Het loodglazuur geeft aan de figuren een wat maïsgele tint.

Het aantal gebruikte figuren (pl. XXIX : 1, XXX) bij de Aardenburgse tegels is nogal beperkt, nl. 8 op een totaal van ca. 27 tegels of fragmenten daarvan met herkenbare afbeeldingen. Minstens 4 tegels zijn geheel gelig of donkergroengrijzig geglazuurd, zonder figuren. Van meer dan 40 tegels is het oppervlak zodanig afgesleten dat er niets meer van een of andere versiering of speciale bewerking te zien is.

4 Trimpe Burger 1965.
5 Trimpe Burger 1962–3.
6 Trimpe Burger 1964.

Het meest vertegenwoordigd zijn de tegels die in groepen van 4 een ornamentale eenheid vormen (8 x), zie pl. XXIX : 1. Op deze tegels komt behalve een rankvormige figuur, in een van de hoeken een gotische fleur-de-lis voor. Een dergelijke 'franse lelie' is in het groot te zien op de tegel van pl. XXX : 1. Merkwaardig zijn op deze tegel, die slechts één maal voorkomt, de beide vogeltjes. Of hieraan nog een bepaalde symboliek moet worden toegeschreven, is mij niet bekend. Opvallend is dat bij de 'franse lelies' van de bovengenoemde twee verschillende tegels, de 'middenas' ontbreekt.

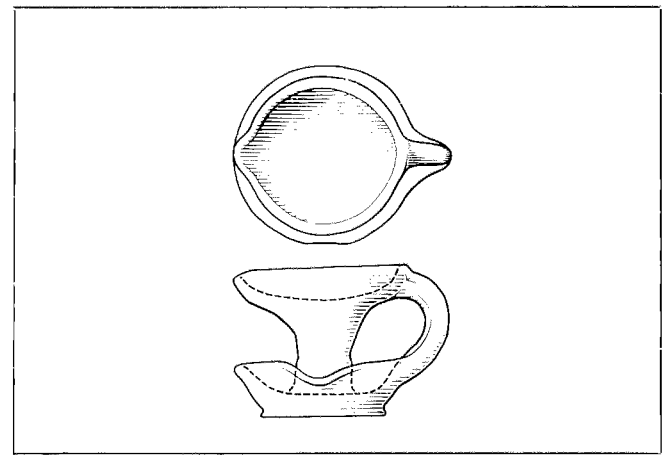
Drie tegels of fragmenten daarvan vertonen een ruiterfiguur naar rechts gaande met naar achteren gerichte lans. Een naar rechts springend hert komt, evenals een naar rechts gaande leeuw, viermaal voor, een onder een boomtak(?) naar rechts rennend everzwijn en een naar rechts springende hond, ieder éénmaal (pl. XXX). Een aardige tegel is die waarop een strijdende figuur met blaasinstrument te zien is; de persoon draagt een wapenrok; in de rechterhand wordt een knots of iets dergelijks achterwaarts omhoog geheven (pl. XXX : 5). Er zijn vijf exemplaren van; drie zijn er gerestaureerd.

De tegels zijn in een zeer slechte staat uit de grond gekomen. Niet alleen zijn zij ver afgesleten, meestal is ook de witgebakken klei uit de versieringen verdwenen, zodat nog slechts de ingedrukte vorm van de figuren is overgebleven. Op de foto's zijn de figuren met een geelwitte verfstof iets opgehaald omdat zij anders nauwelijks zouden uitkomen. Bovendien zijn beschadigingen, zoals ontbrekende hoeken, met gips bijgewerkt. Er zijn tegels bij die aan de achterkant sporen van specie dragen.

Tegels waarop figuren voorkomen die volkomen gelijk zijn aan de Aardenburgse, konden wij tot op heden niet opsporen. Wel vinden we in het interessante en belangrijke tegelnummer van 'Ons Heem' tegels afgebeeld die zeer verwant aan de Aardenburgse vondsten zijn.[7] Zo b.v. de leeuwtegels op p. 170, 175 e.v. door de heer A. Lowick beschreven. Van dezelfde schrijver is een artikel over lelietegels (idem p. 185); de lelietegel uit Aardenburg met zijn twee vogeltjes, vormt ongetwijfeld een waardevolle aanvulling op dit oneindig gevariëerde thema van 'lelies'.

Over de plaats van herkomst is tot nu toe niet veel bekend. Volgens de Vlaamse tegelkenner, aalmoezenier A. Lowick uit St. Michiels bij Brugge, zal men de tegelbakkerij moeten zoeken in de streek van Aardenburg-Brugge. Als materiaal is volgens de heer Lowick gewone polderklei gebruikt.

7 *Ons Heem* 15, 1961, nr. 5/6, Tegelnummer.
8 Trimpe Burger 1962–3, 497.



Afb. 3. Lampje van roodbruin aardewerk (hoogte 8.0 cm); datering: laat 14de eeuw

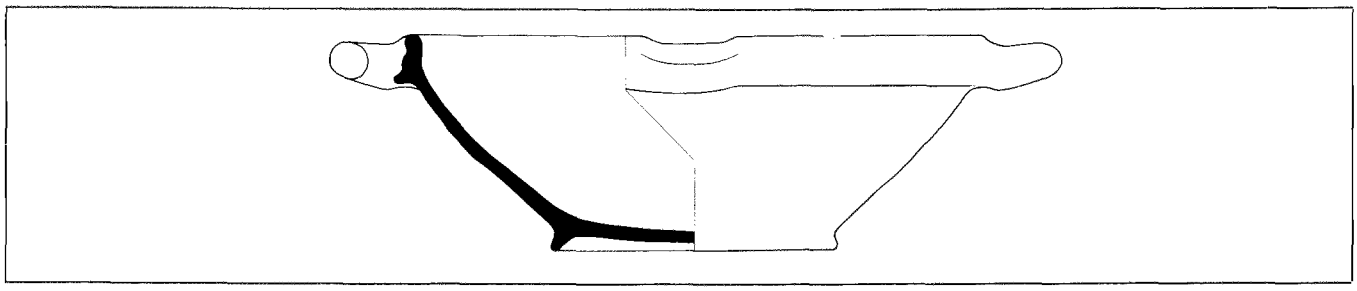
CENTAURTEGEL VAN VLASMARKT

(Pl. XXIX : 2)

In 1957 is bij een proefopgraving nabij de Oude Vlasmarkt te Aardenburg[8] door de heer J. van Hinte een fraaie tegel gevonden die de beeltenis draagt van een centaur (Gemeentelijk Museum Aardenburg, inv.no. 57–Ovl).

De tegel is van een roodbruin baksel, waarin vrij veel afgerond kwartszand voorkomt. De centaurfiguur is evenals de omlijsting met behulp van een matrijs in de nog te bakken klei gedrukt. Het gehele bovenoppervlak is met een laagje loodglazuur overtrokken. In het midden is de figuur beschadigd door het losgeraken van de witbakkende klei. De afmetingen van de tegel bedragen 11.3 x 11.4 cm, bij een regelmatige dikte van 1.8 cm. Het vormbakje moet vrijwel rechtopstaande wanden hebben gehad; de maten van de onderzijde van de tegels zijn 11.0 x 11.0 cm. De tegel heeft zowel aan de onderzijde als aan de zijkanten metselkalk, waaruit we wel mogen concluderen dat we met een wandtegel te doen hebben, ook al omdat de figuurzijde geen spoor van slijtage vertoont.

De techniek van vormen, versieren en bakken staat op een veel hoger peil dan bij de tegels die in het voorgaande zijn besproken. De tegel is tussen ondateerbaar puin gevonden. Volgens een mondelinge mededeling van de heer A. Lowick wijst een omlijsting in ieder geval op een tijd vóór 1500. Naar mijn gevoel zou het een tegel kunnen zijn uit het laatst van de 14de of het begin van de 15de eeuw.



Afb. 4. Schaal van lichtbruin aardewerk met groen geglazuurd binnenoppervlak (hoogte 12.0 cm, diam. zonder de oren 32.0 cm); datering: laat 14de eeuw

Een centaurfiguur die veel overeenkomst vertoont met de beschreven Aardenburgse tegel, vinden we in het tegelnummer van Ons Heem[7] op p. 195, no. 277. Deze half-leeuw/half-ridderfiguur (?) houdt vrijwel op dezelfde wijze zwaard en schild vast. Bovendien is bij beiden het voor-midden van de figuur min of meer gesegmenteerd doordat de matrijs daar ingesneden was. Dank zij de beschadigingen kunnen we ook zien dat de matrijs van de Aardenburgse tegel op de borst van de figuur drie (ondiepe) verticale insnijdingen heeft gehad. De Aardenburgse tegel doet minder primitief aan, is beter gestileerd dan de in Kortrijk gevonden tegel afgebeeld in Ons Heem (datering laatste kwart van de 14de eeuw?).

OLIELAMPJE EN ANDER 14DE-EEUWS AARDEWERK VAN TERREIN GASFABRIEK

(Afb. 1 bij 4; afb. 3 en 4)
Bij de opgravingen op het terrein van de gasfabriek is een afvalput ontdekt met interessante stukken aardewerk die een kleine aanvulling geven op het artikel over de ceramiek uit de bloeitijd van Aardenburg.[8] De afvalput is bovendien van indirect belang voor de datering van de boven vermelde belangrijke tegelvondst. Gemakshalve nummeren we de nieuwe typen door; het aardewerk hoort thuis in groep D: 'datering uit het midden en (of) tweede helft van de 14de eeuw'.[9]
D 29, afb. 3, inv.no. 65–Gf 11: Lampje van roodbruin aardewerk (hoogte 8.0 cm); de bovenzijde van de oliehouder en een gedeelte van de vetvanger is geglazuurd met kleurloos loodglazuur; beide delen zijn voorzien van een sneb of snuitje, die wat betreft de eerste zich tegenover het op doorsnede rolronde oor bevindt, terwijl de andere haaks ten opzichte van het oor is aangebracht. De bodem is vlak, maar slordig gevormd. Een bodemfragment van een tweede lampje heeft een standvlak dat in het midden diep kegelvormig is uitgehold. Deze betrekkelijk vroege olielampjes, die wat gedrongener zijn dan de voorbeelden uit later eeuwen, zijn vrij zeldzaam. J.G.N. Renaud beschrijft enkele lampjes afkomstig uit Merwede, Sluis en Zierikzee uit omstreeks 1400.[10]
D 30, afb. 4, inv.no. 65–Gf 11: Grote, wijde schaal van lichtbruin aardewerk met groen geglazuurd binnenoppervlak (hoogte 12 cm, diam. zonder de oren 32 cm). De schaal bezit twee tegenover elkaar geplaatste oren die horizontaal aan de sterk geprofileerde rand zijn bevestigd. De rand is voorzien van een brede sneb. Schalen en borden met een dergelijk randprofiel zijn algemeen in de tweede helft van de 14de en de 15de eeuw.[11] Meestal hebben zij een bodem met een aantal uitgeknepen voetjes. Onze schaal heeft een ca. 1 cm hoge standring. Opvallend is de fraai groen geglazuurde binnenzijde. Onder de glazuurlaag is een laagje van een witbakkende klei aangebracht, waardoor een helderder tint wordt verkregen.

Het overige in de afvalkuil aangetroffen aardewerk bestaat voor het merendeel uit steengoed met zoutglazuur, o.a. de typen D23 t/m D28, t.w. bekers met aan weerszijden een oortje halverwege de hoogte, kruiken met twee kleine oortjes, kannen o.a. uit Langerwehe, fragmenten van Siegburg-

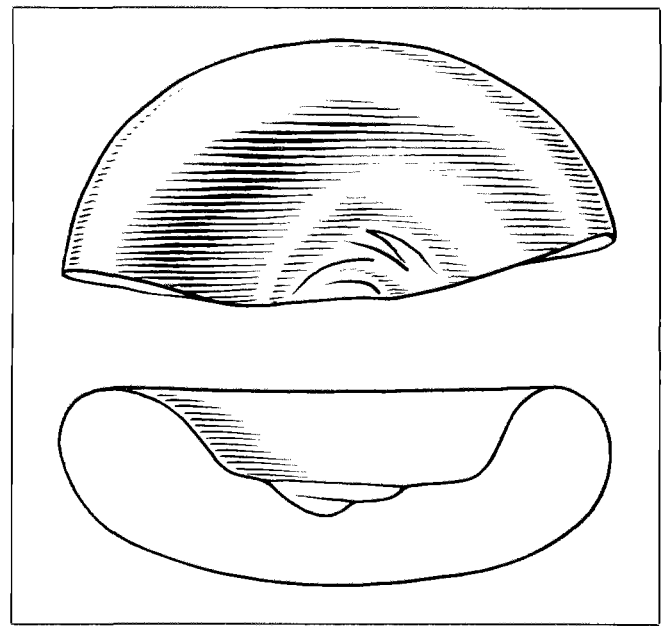
9 Trimpe Burger 1962–3, 528.
10 Renaud 1961, afb. 3; Renaud 1959, 203 en afb. 7: 7.
11 Trimpe Burger 1962–3, 539: D 15; Renaud 1959, 221, afb. 1: 7, 8: 5 en 9: 1.

kannetjes en een bodemfragment van een dergelijk kannetje met groen glazuur. Verder komen enkele fragmenten voor van het bekende blauwgrijze aardewerk, zoals kannen D1 en D2 en vuurklokken (C1). Enige scherven zijn afkomstig van vuurklokken van roodbruin, gedeeltelijk geglazuurd aardewerk met opgelegde ornamenten (o.a. rozetten).[12] Voorts zijn te vermelden braadpannen met massieve steel (D16), fragmenten van braadsleden (C4) en borden (D14 en D15). Kortom de gevonden ceramiek vertegenwoordigt een groep die we zeker wel in het laatst van de 14de eeuw, ten dele zelfs in de 15de eeuw mogen plaatsen. Een uitzondering vormt wellicht het fragment van een zogenaamde 'knightjug'. Deze scherf wordt door G.C. Dunning in deze Berichten (p. 199, pl. XXIV:1) beschreven. De volgens Dunning uit omstreeks 1300 daterende scherf is waarschijnlijk bij toeval in de afvalput terecht gekomen.

STRIJKGLAZEN UIT AARDENBURG

In de 13de- en 14de-eeuwse cultuurlagen en afvalputten te Aardenburg worden niet zelden merkwaardige glazen voorwerpen gevonden die enigszins niervormig (of omgekeerd paddestoelvormig) van model zijn (afb. 5 en pl. XXXI:1). De 'onderzijde' is mooi afgerond en gepolijst. De 'bovenzijde' is in het midden verdiept en men krijgt de indruk dat daar een (afgebroken) staafvormig handvat heeft gezeten. Het zijn zogenaamde strijkglazen ('linensmoothers', 'Glättsteine') die in Nederland en het buitenland (o.a. Engeland, Duitsland, Frankrijk en Skandinavië) niet zelden worden gevonden. De heer G.C. Dunning wees mij op een publikatie van E.W. Holden over de opgravingen van het verlaten middeleeuwse dorp Hangleton.[13] Holden doet daarin belangrijke mededelingen over het gebruik, de datering en de chemische samenstelling van deze 'linensmoothers'. Wij citeren uit zijn publikatie het volgende:

'Medieval parallels to these bun-shaped glass objects are rare, but early examples are known from York and Mr. Waterman has seen one from Rievaulx Abbey, Yorks., which is presumably not earlier than c. 1128.[14] Similar smoothers of Viking times from Perthshire and Chester are known[15] the former having an upright piece of glass on the back. Some museums have examples with glass handles similar to a



Afb. 5. Strijkglas ('linensmoother') uit de 13de/14de eeuw; diam. 7.5 cm, hoogte 2.2 cm; vgl. pl. XXXI:1

mushroom, labelled 18th or 19th century, but dated 13th-14th century smoothers appear to be almost unknown. The two found at Hangleton, one in a sealed layer, show that they were in use during those times. Both of these are without handles, the back of each being irregularly hollowed; the outer surfaces are an iridescent dark grey colour. While they may have been used for smoothing linen, Mr. J.G. Hurst informs me that in Denmark some archaeologists consider Viking period smoothers may alternatively have been used for dressing skins.'

Een zeer uitvoerig gedocumenteerde publikatie over strijkglazen kregen wij onder ogen bij het ter perse gaan van deze Korte Berichten.[16] Dat strijkglazen in Aardenburg vrij veel voorkomen, zou misschien in verband gebracht kunnen worden met de bloeiende lakenindustrie die er vooral in de 13de eeuw was.[17] In onze tijd gebruikt men strijkglazen nog voor het bewerken van hoedranden, boerinnekappen en -mutsen e.d. Het is dus wel een voorwerp dat eeuwenlang in vorm en gebruik ongewijzigd is gebleven!

12 Renaud 1959, 205 en 216, afb. 19.
13 Holden 1963, 163–4, fig. 35: 10 en 11.
14 Waterman 1959, 95; noot 4 verwijst naar Rygh 1885, waar deze voorwerpen in verband met de Vikingen te berde worden gebracht.
15 Shetelig 1940, II, 156; IV, 69.
16 Haevernick & Haberey 1963, 130–8, Taf. 24–5.
17 Trimpe Burger 1962–3, 497.

ENIGE 11DE OF 12DE-EEUWSE BENEN VOORWERPEN UIT AARDENBURG

(Pl. XXXI: 2–5)

De opgravingen te Aardenburg hebben langzamerhand een interessante collectie benen gebruiksvoorwerpen opgeleverd. In dit artikel publiceren wij enige voorwerpen die in hun soort wel reeds een algemene bekendheid genieten, maar die toch vermeldenswaardig zijn doordat de vondstomstandigheden ons een vrij nauwkeurige datering verschaffen. Relatief rijk aan benen voorwerpen zijn de 11de en 12de eeuw en de daaraan voorafgaande 'Vikingtijd', veel rijker dan de 13de en daarop volgende eeuwen. Zou men in de latere tijd wat meer vergankelijk materiaal gebruikt hebben, zoals hout?

De benen gebruiksvoorwerpen die hier ter sprake komen zijn in samenhang gevonden met het bekende 'Pingsdorf'- en het 'spaarzaam geglazuurde Andenne'-aardewerk dat vooral in de 12de eeuw en iets eerder sterk op de voorgrond treedt. Deze 'periode' is in geheel Zeeland rijk vertegenwoordigd. De bevolking is in deze tijd geweldig toegenomen; vele gronden zijn ontgonnen en bedijkt.[18]

Algemeen in gebruik waren in de 11de en 12de eeuw (en mogelijk vroeger) de benen 'glissen' of 'schaatsen' met hun mooi gepolijste onderzijden. Wij zullen er hier echter geen aandacht aan besteden. Belangrijker voor ons is de vondst gevormd door de drie benen voorwerpjes op pl. XXXI: 2–4 (inv. no. 65–Gf 10). Zij zijn vrij dicht bij elkaar gevonden in een stratigrafisch goed te dateren vondstenlaag.

In de eerste plaats wordt onze aandacht getrokken naar het voorwerpje op pl. XXXI: 2, waarvan alleen al in Zeeland parallellen bekend zijn uit Ritthem (vluchtberg, ca. 11de eeuw), Middelburg (opgraving dr. W.C. Braat, 1942), Westkapelle (gevonden in een graf op het strand; waarschijnlijk 11de of 12de eeuw) en Schouwen (collectie Hubregtse, twee exemplaren).[19]

Volgens Behrens zouden deze voorwerpjes, waarvan niemand eigenlijk weet waarvoor ze gebruikt zijn, ook voorkomen in Romeinse vindplaatsen, o.a. te Keulen en Mainz[20] (?). Een misschien ook enigszins vergelijkbaar voorwerpje, dat echter geen tanden heeft gehad en onversierd is, komt uit een ca. 11de-eeuws vluchtbergje te Abbekinderen op Zuid-Beveland.[21] Mogelijk hebben we hier te doen met een 'halffabrikaat'.

Het voorwerpje uit Aardenburg is met inbegrip van de drie tanden 3.6 cm hoog. De vijfkantige voorzijde is op eenvoudige wijze versierd door middel van evenwijdig ingekraste lijntjes, een versieringswijze die we in deze tijd wel meer tegen komen. De achterzijde (één vlak) is onversierd en veel minder zorgvuldig afgewerkt. Waarschijnlijk heeft het stuk toch wel enige sierwaarde gehad, want ook de andere vermelde vondsten uit Ritthem, Westkapelle, Middelburg, Schouwen zijn min of meer op dezelfde wijze versierd. Voor- en achtervlakken en de tanden van het Aardenburgse voorwerpje zijn fraai glanzend gepolijst; de bovenzijde en de holte van het been geven veel minder polijsting te zien; de onderkant vertoont helemaal geen glans. Het heeft misschien zin bij de bestudering van dergelijke voorwerpjes vooral ook op sporen van gebruikssslijtage of -polijsting te letten.

Het vermoeden bestaat dat de hier genoemde voorwerpen gebruikt zijn bij het weven of bij het vervaardigen van draden voor b.v. visnetten. Ook wordt wel gedacht aan 'punniken'. Voorlopig is het vraagstuk nog niet opgelost. Mogelijk staan de beide andere voorwerpjes die we nu zullen bespreken, een naald en een kamvormig bewerkt stuk been, in een of ander verband met het bovengenoemd 'werktuigje'.

De benen naald op pl. XXXI: 3 (lengte 6.0 cm, inv.no. 65–Gf 10) is een bijzonder gaaf exemplaar. Zij is op doorsnede rond; boven het oog is aan weerszijden een groeve voor de draad aanwezig. Het gehele oppervlak is glanzend geworden door het vele gebruik.

Het kamvormige voorwerp op pl. XXXI: 4 is een vrij bekende verschijning (lengte 6.5 cm, inv.no. 65–Gf 10). Boeles noemt ze weefkammen.[22] Van Regteren Altena spreekt van kammen om wol te kaarden. De tanden van het Aardenburgse exemplaar zijn helaas afgebroken. Het voorwerp is weinig zorgvuldig afgewerkt en ziet er vrij dof uit. Het enige wat nog opvalt, is een klein doorboord gaatje, op de foto duidelijk zichtbaar. Uit Zeeland is me een 'weefkam' bekend uit de vluchtberg van Coudorpe (ca. 11de eeuw), gelegen in Zuid-Beveland; het stuk is in particulier bezit.

Uit dezelfde tijd als de bovengenoemde, bij elkaar gevonden voorwerpjes is de benen kam op pl. XXXI: 5. Zij is afkomstig

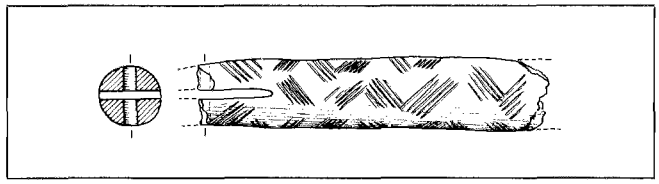
18 Trimpe Burger 1957–8, 119.

19 Roes 1955, 85, fig. 2 en pl. XI: 17, pl. VI: 12 (de vondsten zijn in het Zeeuws Museum te Middelburg). Vgl. ook Roes 1965.

20 Behrens 1931.

21 Trimpe Burger 1957–8, afb. 21: 6a, 6b.

22 Boeles 1927, 276, Pl. XXV: 13; Roes 1963; Van Regteren Altena 1966, 19, fig. 7.



Afb. 6. Afgebroken, versierd handvat van benen kam (lengte 9.3 cm). Schaal 1 : 2

van een opgraving ten zuiden van de St.-Bavo (weide Quataert); inv.no. 61–Q 68. Deze kam is gevonden in een kleiige greppel die door de Romeinse cultuurlaag was heengegraven; de begeleidende vondsten waren weer 'Pingsdorf'- en 'Andenne-aardewerk'. De kam bestaat uit twee gedeelten. De eigenlijke kam is in een steelvormig handvat met een aantal dwarse pennen van metaal vastgezet. Dit moet reeds gebeurd zijn voordat de tanden van de kam werden ingesneden want corresponderende groeven vinden we ook in het handvat, hetgeen op de foto goed te zien is. De kam is langer geweest dan de 15 cm die zij nu meet; de top is afgebroken, evenals een groot deel van de tanden. Ten slotte kan nog worden opgemerkt dat het voorwerp overal 'hoogglans' te zien geeft. In Aardenburg is verder nog een versierd handvat van een dergelijke kam gevonden op het terrein van het kamp Rodanborch[23]; de wijze van versieren (afb. 6) doet denken aan die op het voorwerp van pl. XXXI : 2.

23 Bij het graven van een put voor een benzinetank gevonden door de heer M. Kegel; op welwillende wijze afgestaan voor het Gemeentelijk Museum te Aardenburg, inv. no. 66–Rdb 1.

Résumé *

Les recherches dans les terrains de l'usine à gaz d'Aardenburg (*afb.* 1) ont commencé en 1965. Bien qu'une grande partie des niveaux romains et médiévaux a été perturbée au XVII^e siècle, lors de la construction des fortifications du Prince Maurice, on a pû retrouver, surtout sous le rempart nivelé au début de ce siècle, des choses assez intéressantes.
La trouvaille la plus importante pour l'époque médiévale est certainement l'ensemble des carreaux reproduits pl. XXIX et XXX, qui datent probablement des environs de 1300. Ils ont été trouvés dans la tranchée de démolition d'un bâtiment en briques datant de la même époque.
Comme le chantier des fouilles n'est pas fort éloigné de l'ancienne église Sainte Marie, on a retrouvé en divers endroits beaucoup d'ossements humains remontant pour la plupart au XVIII^e siècle, ainsi que quelques sarcophages en briques (pl. XXVI) dont un était orné à l'intérieur d'une croix peinte en rouge (*afb.* 2).
Les objets en os de la planche XXXI sont des XI^e et XII^e siècles. Les objets en verre reproduits *afb.* 5 et pl. XXXI: 1 appartient à l'époque où Aardenburg était un important centre commercial et que la ville possédait une florissante industrie drapière (XIII^e et XIV^e siècles). L'objet précité est un verre à repasser connu sous le nom de *'linensmoother'*.
Les quelques objets reproduits *afb.* 3 et 4, qui datent de l'extrême fin du XIV^e siècle, ont été rencontré dans une fosse à déchets accompagnés de nombreux grès rhénans.
Sous les niveaux médiévaux existe une couche romaine qui a livré les vestiges d'un grand bâtiment dont les fondations reposent sur plusieurs rangs de petits pieux en bois (pl. XXVII). Le compte-rendu des recherches dans les niveaux romains d'Aardenburg fera l'objet d'une publication plus étendue.

* Résumé traduit par M. Ch. Léva, Bruxelles.

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J.A. BRONGERS

Evidence for Trepanning Practice in the Netherlands during Pre- and Protohistoric Times

One of the most impressive facts in the history of medicine is that in the earliest periods of his existence or at least regularly since the neolithic,[1] man had already mastered the technique of opening the cerebral cavity of a living person so carefully that some of the persons so treated lived long enough afterwards for the bone-wound to show all signs of healing. We can only guess at the reasons for performing this operation. Perhaps magic played a role but in some cases a more or less medical reason is probable.[2] This intentional opening of the skull is called trepanning or trephination. We shall use the word trepanning, because it seems a more general term since the word trephination originates at a later date when an improved form of trepan with a guiding centrepin came into use.[3]

In the summer of 1965, when making photographs in ultraviolet light (*vide* p.227) of the remains of a Bronze Age skeleton found at Cuijk, we were confronted with a perforated skull. The question was whether this perforation had been brought about by trepanning, and in order to be able to answer this question we undertook to study the problem in a wider context. As the skeleton has been made visibly possibilities are opened for a quantitative and qualitative description of the buried person. This is important because it can offer medical evidence about the reasons for trepanning.[4]

In literature one can find several lists of European pre- and protohistoric skulls with perforations.[5] In these lists all known skulls with a perforation are collected, mostly without any further detailed description of the perforation itself, which should be done by a team consisting of specialists in neurosurgery, forensic medicine, archaeology and anthropology.

But these lists do enable us to sift the evidence relating to early European trepanning practice more quickly.

During a next stage in the research we hope to be able to decide by a careful comparison of the perforations which ones were caused by trepanning and which were due to other causes. For at first sight it is not so very easy to differentiate between them.

When one compares the frequency of trepanned skulls in relation to 'normal' skulls[6] in one particular cemetery one sees rather high percentages in prehistoric periods whilst in recent times these percentages are low. The factor difference is 20–100! Now these comparisons are very dangerous for at least three reassons.

1. The numbers of skeletons found in prehistoric cemeteries are often statistically too small. Moreover, it is possible that trepanning was more widely practised in socially important circles. Therefore it cannot be excluded that in some cemeteries or in special sections of a cemetery, *e.g.* in the vicinity of the burials of kings and chiefs, trepanned skulls are over-represented.
2. We think that, especially from the older excavations, the 'interesting' perforated skulls came into the museum collections. In the course of the time the normal skulls selectively have gone lost because nobody was interested.
3. Several recorded perforations are probably not trepanations at all.

A further difficulty is that there is no exact agreement about what is to be considered a trepanation. We consider a per-

1 In one article evidence is given that trepanning was practised even in the mesolithic period (Dastugue 1959).
2 Piggott 1940, 121; Sypkens Smit 1943, 75; Stewart 1958, 480.
3 *Concise Oxford Dictionary* 1950; *Enc. Britt.* 14th ed., 1929, IV, 20.
4 Ullrich 1958.
5 Piggott 1940; Ullrich & Weickmann 1963; Károlyi 1964.
6 Ullrich & Weickmann 1963, 104.

foration in a skull a trepanation when it was made during life of the subject with the intention that he should survive the operation. This intention can be proved in the first place, when there is a perforation not caused by a pathological process,[7] and which shows signs of healing. This intention can also be accepted in cases where there are no signs of healing but evidence that the man who made the perforation worked with the utmost care not to perforate the *dura mater*.[8]

From this medico-historical point of view the so-called post-humous trepanation is a different matter and does not fall within our definition. In this article we will try to give a careful description of the possibly trepanned skulls found in this country. Though their number is small – up until now we posses only one complete skull and two fragmentary ones with possible traces of trepanation – we hope that the article may contribute to some future corpus of European pre- and protohistoric trepanations. Our descriptions of the Dutch material will be completed with a macrophotography of the outer and inner side of each skull in the area of the lesion, and a sketch of the outer side in order to draw attention to certain details and measurements. Furthermore we give an X-ray photograph of the lesion and its surroundings. However, we saw no more information on the X-ray photographs of these skulls. The macrophotographs are placed in such a way that they are mirrorsymetrically related (pls. XXXII, XXXIII and XXXIV).

1 SKULL FRAGMENT FROM WINSUM (PROVINCE OF FRIESLAND)

In the collection of the Fries Museum at Leeuwarden there is a fragment of a skull showing a hole (inv. no. 53/177). It was found in 1888–9 in a *terp*, situated between Winsum and Bruggeburen.[9]

The fragment is mentioned by Boeles[10] and a detailed description is given by Sypkens Smit.[11]

No particulars about the find circumstances are known as the skull fragment was found during a commercial excavation for terp soil. There are no real associated finds and even

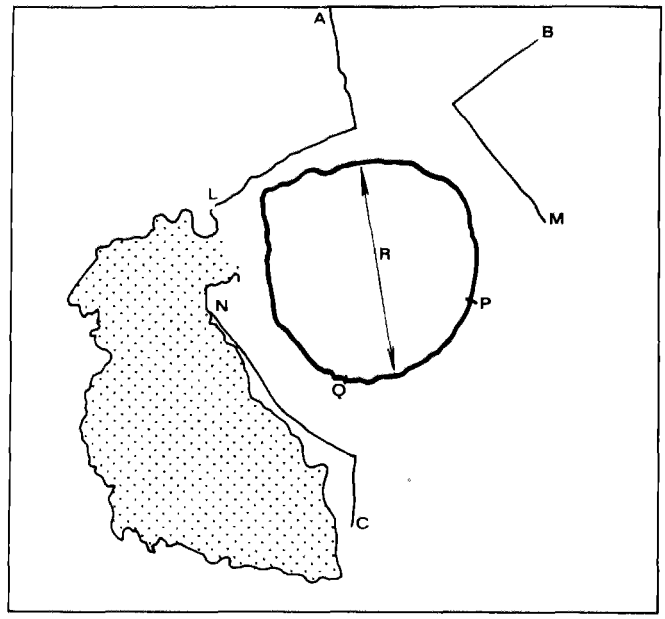

Fig. 1. Winsum

the wide limits of 200 B.C. and 1000 A.D. assumed by Boeles[12] on account of the other objects found in the same season's digging are not completely reliable.

The fragment consists of the right part and a small piece of the left part of the frontal bone. It belongs probably to a young man,[13] judging from the rather open coronal suture. The bone is very rigid, on the place of the perforation it has a thickness of 4–6.5 mm. The bone has no sign of healing, not even on the X-ray photograph (pl. XXXII : 3).[14] The perforation is almost round and is situated 2 cm above the right eye-socket. The hole is rater conical with the largest opening on the outside of the skull fragment. The diameter in the *tabula externa* (R in fig. 1) is 17 mm. The diameter in the *tabula interna* measured on the same place is 14.5 mm. There are three radial cracks in the *tabula externa* (A, B and C in the sketch). A is clearly visible on the photo (pl. XXXII).

7 Wertheimer a.o. 1956; Janssens 1959; in these articles pathological causes of skull perforations are discussed.

8 The bone of the cerebral cavity consists of three layers: one on the outside *(tabula externa)* and one on the inside of the cavity *(tabula interna)*, and between these two the *diploe*, a spongy bone tissue. Close to the *tabula interna* is the *dura mater*, the membrane that surrounds the brain.

9 Boeles 1951, probably no. 20 on 'terp map'.

10 Boeles 1951, 205.

11 Sypkens Smit 1943.

12 In: Sypkens Smit 1943, 79.

13 Male because of a very well-developed *linea temporalis inferior*.

14 Guiard 1930, 37–9, pl. v.

Sypkens Smit does not take these cracks into consideration because he thinks these are artifacts of a later date than the perforation. L, M and N (see sketch) are fracture-lines showing where parts of bone have broken off. These fracture-lines end exactly in the crack lines A, B and C. So we think the cracks belong to the defect. The conical shape of the perforation must have been caused by the breaking off of bone fragments along the fracture-lines by a force coming from the inside of the skull. The cracks were generated during this act.

Along the part P–Q of the circumference the *tabula interna* shows a little swelling, which can easily be felt by touching with a finger. This 'rim' seems not to have been generated during the act of perforation, because on this place there are no cracks in the *tabula interna* and therefore we think this rim is a natural variation in the thickness of the skull.

There is only one tiny semi-circular crack in the *tabula interna* near Q but it is not attached to the rim. We presume that this little crack is the normal reaction of the *tabula interna* to perforation. The *tabula interna* is also called *tabula vitrea* because it sometimes behaves like glass in that it is very difficult to perforate the *tabula interna* without causing cracks.

Taking the roughness of the whole perforation into consideration we are inclined not to agree with Sypkens Smit in believing that this is a trepanation.

For an explanation of this perforation we refer to the work of Thordeman.[15] In his book he devotes a whole chapter to the skeletal remains of warriors found in some mass graves in the neighbourhood of the battlefield of Wisby. He also describes some lesions found on the skulls and other bones, caused by offensive weapons. He found three fragments of skulls with conically shaped perforations. A larger perforation diameter was in the *tabula externa*. He suggests that the perforations are the exit holes of an arrow that passed right through the skull. In our case the perforation in the *tabula interna* is nearly round so that when this explanation is valid, the arrow-head must have been round.

Such a deep penetration of an arrow must have caused fractures and further fragmentation of the skull, due to the rather incompressability of the brain tissue. In Wisby only fragments of skulls were found with this type of perforation. This is also the case with our Winsum fragment. We think this is also evidence for our suggested explanation.

The shaded area in the sketch represents a discoloured and rougher zone of the skull. According to Stewart[16] in his work on Peruvian skulls, this might be a sign of osteitis. The affected zone may be more or less an offprint of the wound-opening in the scalp. If true, this is extra evidence supporting our opinion that this opening is not a trepanation. For in the case of a trepanation one would expect a zone all around the place of the perforation. To clear this matter careful comparison of the European skulls is needed, since Peruvian inhumation conditions are quite different from European. Also osteitis would indicate that the victim lived for a short time after receiving the wound.

Such a short survival is not necessarily in contradiction to the rather severe type of injury we suggested above, as survival is known in modern times of severe accidents involving the brain.

II SKULL FROM FERWERD (PROVINCE OF FRIESLAND)

The Fries Museum also possesses a complete skull, including the lower jaw, with a perforation (marked 139; inv. no. 101–1091). It was found in a terp near Ferwerd, called Burmaniaterp I (no. 95 on the map of Boeles), during the week of 11–17th May, 1913. This skull belonged to a male dolichocranic individual of about 40 years old, and Boeles[17] gives data of the find-circumstances.

With our present knowledge concerning the complex structure of a terp, this description by Boeles is insufficient. This is due to the commercial character of the excavation, although continuous inspection was exercised by a representative of the Fries Museum.

Therefore the dating to the 4th/5th century by Boeles cannot be accepted as certain.

In the parietal bones in the upper part of the skull is an opening of which far the largest part is somewhat to the left of the middle of the *sutura sagittalis*. Dimensions (see fig. 2) R = 39 mm, S = 27 mm. The photograph (pl. XXXIII) shows the good healing of the wound, the *diploe* is nowhere visible. The perforation has a bevelled edge. L – M (see sketch) is a scar. It passes over the new-grown bone tissue, so we conclude it is a modern damage. The slightly curved groove in the *tabula interna* which ends at the edge of the defect has no corresponding trace in the *tabula externa*, and seems to be a natural variation. The place of the perforation is a very delicate one because of the presence of the *sinus sagittalis superior*, an important vein. It is therefore not very probable that such an injury caused by brutal force would have given

15 Thordeman 1939, I, 186, 190.
16 Stewart 1956.
17 Boeles 1951, 205.

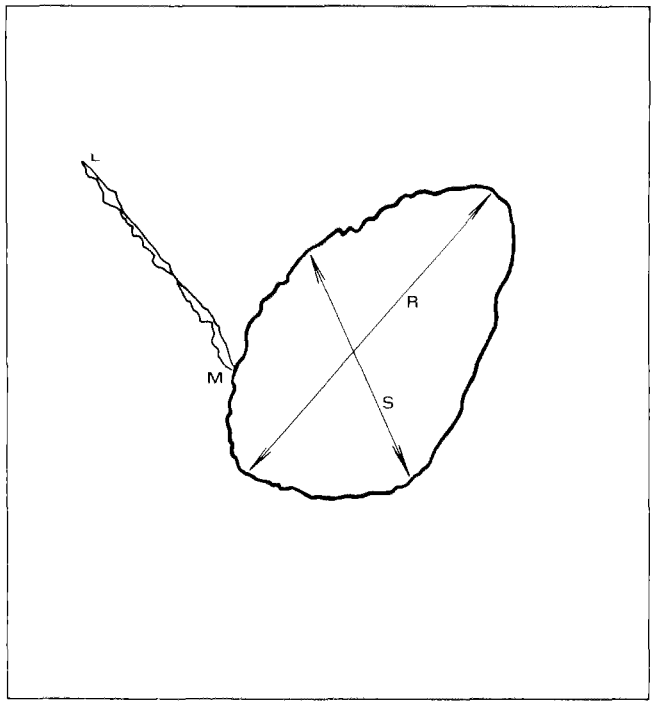

Fig. 2. Ferwerd

the opportunity of such a long survival as the wound healing indicates. There are perhaps some signs of osteitis all around the performation. There is no evidence for a pathological process. In the frontal bone there is damage caused by a spade during the excavation.

In conclusion we may say that this skull is probably a trepanned one, the shaving technique being the trepanning method employed.

In the shaving technique, the cutting blade of the cutting instrument is moved in, or approximately in, the tangent plane to the skull at the point at which the perforation is intended to be made. In this way the chance is reduced of slipping into the *dura mater*. As a result a perforation is produced with a bevelled edge.

If the date of 4th/5th century suggested by Boeles is true, this should be a trepanation from a period in which trepanning is not frequently recorded. Salin[18] does not mention any case although he devotes a whole chapter to the skeletal remains and their lesions in the Merovingian period. Of course this skull need not be related at all to the Merovingian culture. On the contrary Wells[19], Piggott[20], Ullrich and Weickmann[21] and Károlyi[22] report evidence for trepanning in this period, but in future attention must be given to the question of whether there is any cultural relation to the Merovingian medical tradition. As far as we know no early medieval texts exist which record unambiguous cases of trepanning.[23] Only in Hungary have 10th century trepanned skulls been found.[24] When we consider the skull as late-Roman there is until now lack of well-dated comparable material. As a third possibility we can think that this trepanned skull is related to an early Northern centre of trepanning.[25]

Finally the possibility remains that the skull is of a much later period.

III SKULL FRAGMENT FROM CUIJK (PROVINCE OF NOORD-BRABANT)

In the course of an excavation carried out by the R.O.B. at Cuijk which was principally concerned with traces of the Roman period,[26] a number of prehistoric burials was discovered in june 1965 underneath the Roman levels. One of these, grave B, was a rectangular inhumation grave. The major part of the body was present only as a soil silhouette. Some of the deepest lying parts of the corpse were not all totally decayed. The back of the head and some parts of the *fibula* and *tibia* were preserved.

In the field it was clear that there was a perforation in the skull. No evidence was found that this lesion had been caused by vegetal or animal activity. In the area of the hole no bone material could be detected with the aid of the ultraviolet lamp. No arrow-head was found within the cerebral cavity. The burial can be tentatively dated to the Bronze Age.

It appeared to be possible to strengthen the weak bony material with the aid of polyvinylchlorid resin in a volatile

18 Salin 1952.
19 Wells 1964.
20 Piggott 1940.
21 Ullrich & Weickmann 1963, 106.
22 Károlyi 1964, 213.
23 De Moulin 1964 and personal communication.
24 Nemeskéri a.o. 1965.
25 Piggott 1940, see map on 117.
26 Bogaers 1966.

solvent.[27] Thereafter it was possible to handle the fragment more or less as a normal object. In the skull was an *os interparietale.*

According to the robustly developed external occipital protuberance and the mastoid process it is the skull of a man; the age cannot be established.
The perforation occurs in the left parietal bone in the neighbourhood of the *lambda.* It is almost round with a diameter of 16–17 mm. The wall of the wound is perpendicular to the *tabula interna* and *tabula externa.* It is clear that the bone is in poor condition so it is difficult to see details. Nevertheless it seems that there is no sign of wound healing. In the direct surrounding of the defect there are three indentations (see fig. 3: A, B and C). These indentations might have been caused by a trepanning instrument. On the X-ray photograph (pl. XXXIV:3) one sees a zone more permeable to X-rays, but this may be caused by a diffusion process in the *diploe,* because similar zones can be seen along fractures caused by pressure of the surrounding soil on the skull. The ultraviolet photograph shows the length of the skeleton to be 155 cm. There are no traces of abnormalities in the photograph. It was buried with the head in N.E. direction (*cf.* p. 227).
The cylindrical form of the hole almost excludes brute force as the cause of this lesion. As the bone surface is too much corroded, eventual recognition of osteitis is impossible.
A tentative conclusion may be that this perforation is possibly made by the cutting technique. In order to reach a definitive conclusion as to whether it is a trepanation or not, careful comparison with analogous cases is necessary, because it is difficult to say whether the perforation was made during life.
In this technique the cutting blade of the instrument is moved perpendicularly to the wall of the brain cavity. The *tabula externa* and *diploe* is cut carefully. Afterwards the circle of bone is broken out as it is only kept in place by the easily broken *tabula interna.*

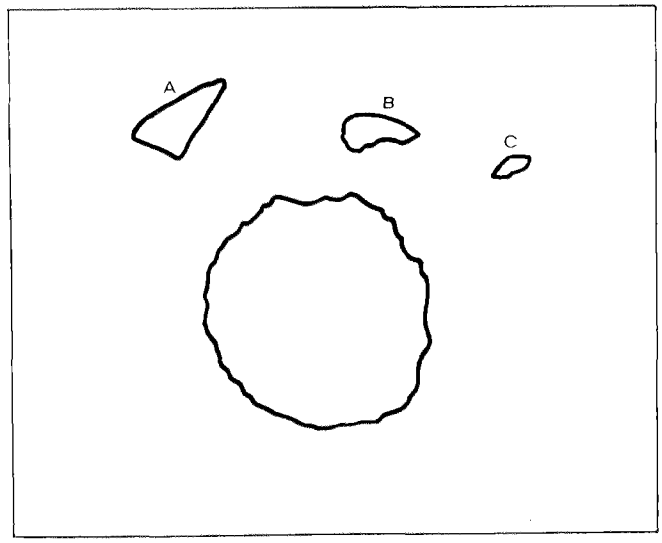

Fig. 3. Cuijk

In conclusion we may say that there is some evidence for early trepanning practice in the Netherlands. It is a pity that it has not been possible to date our specimens more closely. We hope that the above detailed description and discussion may contribute to a surer identification of trepanning practice and its techniques. Perhaps in the future it may be possible to use other techniques *e.g.* microscopical thin sections of the edge of the wound, to obtain more evidence of healing. Of course this must be done in such a way that it will not frighten museum keepers as to the fate of their valuable possessions.[28]

27 Unwin 1951; Ypey 1961.

28 We wish to thank the direction of the Fries Museum in Leeuwarden for giving us the opportunity to investigate the discussed specimens from their collections. Their curator Mr. G. Elzinga is thanked for his help. We thank also Dr. A.J. van Bork-Feltkamp, Dr. H. Feriz, Dr. J. Huizinga, Prof. Dr. W. Luyendijk, Dr. D. de Moulin and Dr. J. Zeldenrust. Their advice contributed considerably to the final form of this essay. We thank Prof. Dr. J.E. Bogaers for giving us the opportunity to publish the skull fragment from Cuijk. Last but not least we thank Mr. C. van Duijn, Mr. H. Wijnman, Mr. G. J. Rombout and Mr. J. Ypey for their help with excavation, conservation, macrophotography and X-ray photography respectively.

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J.A. BRONGERS

Ultra-violet Fluorescence Photography of a Soil Silhouette of an Interred Corpse

In the course of our investigations aimed at improving the visibility of soil traces in an excavation,[1] we tried to record photographically the skeleton of a corpse that appeared mainly as a soil silhouette.

Ultra-violet light has already been used as an aid in making better photographs of bones[2] but in our case the bone had for the greater part disappeared. Only part of the skull[3] and some fragments of the lower part of the legs were present as bony material.

The influence of ultra-violet light on bone has been investigated by Van Ledden Hulsebosch.[4] Encouraged by Van Giffen, the nestor of Dutch archaeology, he tried to see the difference between cremated and corroded bone. He found that cremated bone did not produce fluorescence but that corroded did.

Hörmann[5] interpreted the weak fluorescence of some apparently cremated bone as being caused by a third type of ritus, inhumation and cremation being the other types. He called this: 'Leichendörrung'. This interpretation is superfluous as, due to inefficient firing, those ancient cremated bones always produce a faint fluorescence.

Bachman and Ellis[6] measured the emission curve of fluorescing bone. Most of the emitted light has a wavelength of about 4400 Å.

During our experiments we photographed principally the over all light of the tiny undecayed particles of bone that lay still unchanged in the soil. This burial can tentatively be dated to the Bronze Age. It was excavated at Cuijk during an excavation mainly concerned with traces of the Roman period.[7] The burial is marked: *Prehistorisch Graf B.* We used a specially-made folding tent (pl. XXXVI–XXXIX). It consists of a wooden upper plane (100 x 60 cm) with four wooden legs (length 100 cm). The inside of this frame is made absolutely dark with a double cover of black fabric used by photographers when focussing a portrait-camera. An extra piece of fabric is laid in the direction from which the sun comes. The hem of the cloth is weighted down with granular lead to ensure tight closure with the ground. The ends of the legs are broadened to prevent damaging the horizontal excavation-plane.

The top board is pierced by three holes. Two of them are for direct observation and give an opportunity to discuss the visible traces in the field with other people present. The holes are shaped in such a way that while looking there is no entrance of sunlight. A thick glass plate is fixed under the hole to prevent too much reflected ultra-violet light to reach the eye. This might be dangerous.

To reduce adapting time and the ultra-violet radiation dose it is good to close the eyes five minutes before looking. Meanwhile the pupils are dilated and the eye is ready to see the faint fluorescence. It is not advisable to look too long at the object.

A camera is mounted in the third hole. The connection between the upperplane and the lens of the camera must be again absolutely light-proof (pl. XXXVIII). While photographing, the other holes are covered with a hood of black fabric.

Under the upper plane two ultra-violet light-sources with reflectors are mounted together with their choke-coils. They are placed on both sides of the line of the holes. Electricity is generated by a transportable petrol-driven dynamo (220 V. A.C. 50 Hz). The ultra-violet light-sources used in our apparatus are: Philips HPW 125 Watt. Emissionpeak: 3650 Å.

1 Brongers 1963.
2 Ritchie & Pugh 1963.
3 *Cf.* this issue p.
4 Van Ledden Hulsebosch 1926; 1947, 165.
5 Hörmann 1930, 77.
6 Bachman & Ellis 1965.
7 Bogaers 1966.

Metal pins are driven into the ground at regular determined intervals in a straight line in the silhouette to be photographed. On top they are provided with a groove in cross-form. This groove is filled with glue mixed with washing-powder. Washing-powder fluoresces very well (optical white!).

These pins can serve as a measuring line in the photo. Furthermore the photographs have to be arranged in such a way that the fluorescing crosses are in a straight line and the corresponding points in the different photographs are on the same place, because it is not possible to photograph the whole silhouette in one time, when taking anthropological measurements. One must apply the same method used in photogrammetry: making a photo-mosaic of several photos, taken nearly vertically.

When the pins are driven in vertically it offers an easy method to relate the photos of successive horizontal planes. The ground is levelled off as usual in excavation practice. In one photo we can cover an area of 80 x 60 cm. It is not a square because the area is cut off by the fabric of the tent.

The result reproduced here is composed from the prints of three negatives. The upper and the middle part are on Adox-film, the lower on Agfa-film. In the three cases the exposure time was 1 minute.

The film velocity was 21/10 DIN. The difference between the Adox-film and the Agfa-film is not only due to the fact that there is some bony material present in the lower part. Because on direct observation the upper part of the skeleton looked equally bright to us. So it seems the Agfa material is more sensitive for this type of fluorescence. The camera used was a Rolleicord. An ultra-violet filter (Rollei-filter) was placed before the lens to prevent reflected ultra-violet light from entering the camera and thus causing over-exposure. This filter slowly cuts off wavelengths smaller than 4400 Å.

The heel-bone *(calcaneus)* and the extreme point of the skull are clearly visible on the picture. Comparing this with the scale of the co-photographed crosses we calculate the length of this individual to be 155 cm.

We also see that there are no apparent fractures or other defects in the skeletal bones. The right lower arm is bent across the chest. If we had made a photo-mosaic in an earlier phase we might have found the hand on a higher level in the burial. There are no traces of the left arm, very probably due to the fact that we started photographing on too low a level.

There were more silhouettes in this excavation. Unfortunately it was only possible to take pictures of this one. Had we been able to photograph all the others, it would have been possible to date the silhouettes relatively. They were buried under nearly the same conditions, but some of them are thought to be Bronze Age, others Neolithic. By comparing the intensity of the fluorescence we think it might be possible to decide which is the elder group, the faintest being the elder.

During an excavation of a Danube culture settlement (under supervision of Prof. Dr. P.J.R. Modderman) we made a photograph of a neolithic skeleton in the löss. The fluorescence was very weak. It was not possible to see the fluorescence with the eye but it was possible to take a picture on which part of the skeleton could be recognized.

We also tried to photograph a skeleton which was lifted by means of plastic. In this case it was impossible to take a good picture as some components of the plastic produced a very strong fluorescence.

By lifting the fabrichood it is possible to photograph in normal light the objects in the grave *in situ* together with the crosses. In this way they are acurately related to the skeleton.[8]

8 We thank Mr. G.J. Rombout for his help in constructing the apparatus and for his assistance in the field.

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SHORT NOTES

R.S. HULST

A Pot Beaker from Velp, Prov. of Gelderland

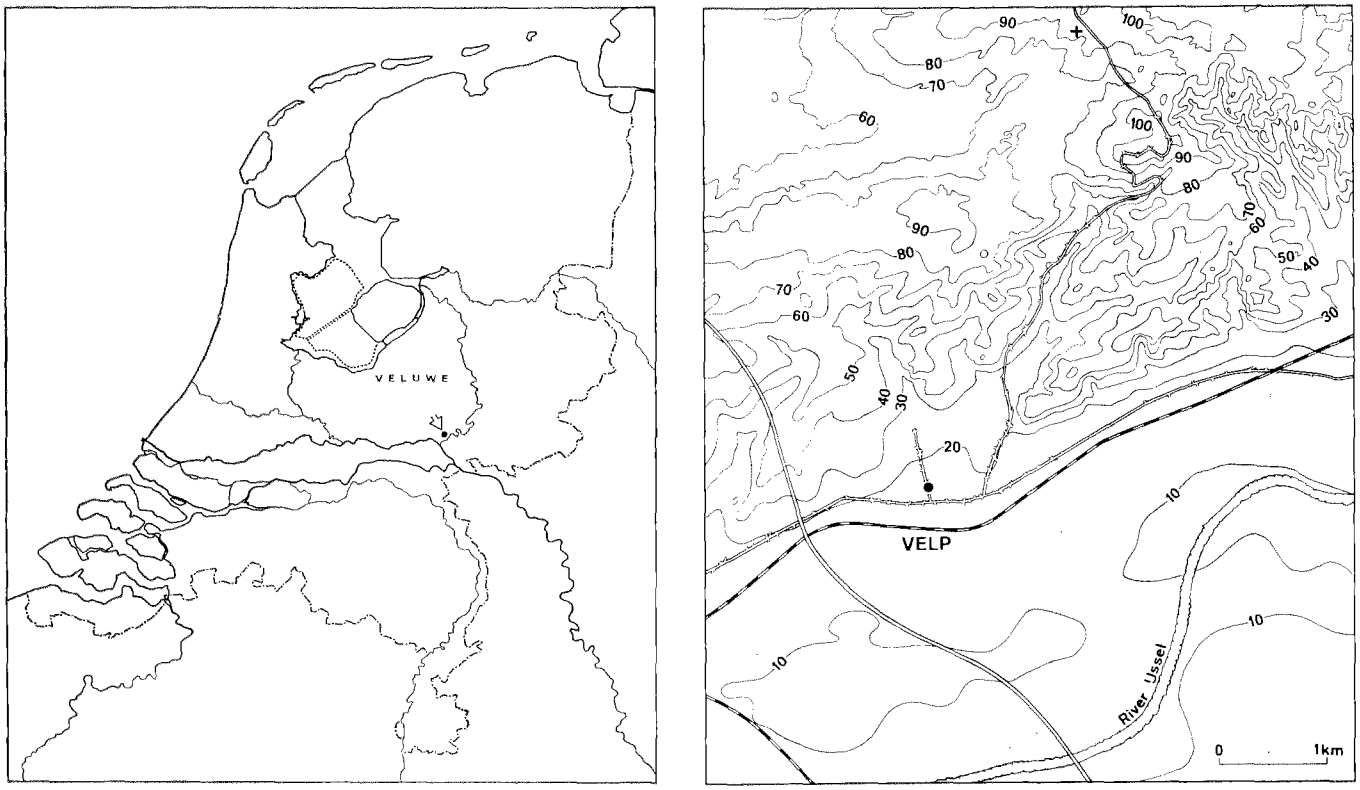


Fig. 1. Location of Velp, with the findspot of the pot beaker indicated by a dot, and the findspot of Veluvian bell beaker sherds in the Rozendaalse Zand by a cross

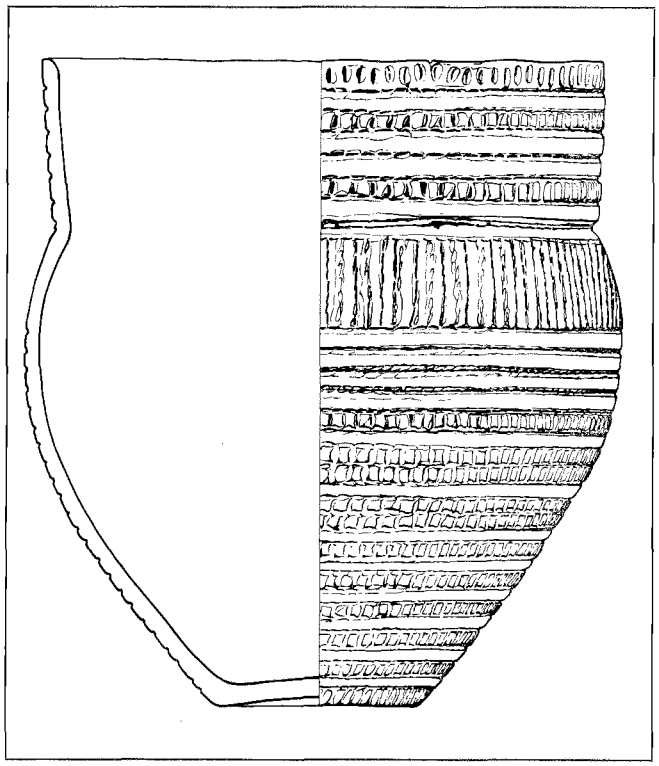


Fig. 2. The pot beaker from Velp

On 1st September 1966 an extension was made to the storage-cellar in the wine-shop of Messrs. Westerveld, Rozendaalselaan 20, in Velp, east of Arnhem (fig. 1). During the work of digging away the sandy ground behind one of the walls, Mr. J. Besseling, the owner, saw a number of sherds falling down. The impression of the complete profile of a large decorated vessel remained clearly vissible in the soil. We are greatly indebted to Mr. Besseling for leaving everything as it was, thus giving us the opportunity to carry out an extensive investigation on the spot. The first survey was carried out by Miss E. Waardenburg, Gemeentemuseum Arnhem, on the very day of the discovery.

The vessel, a pot beaker (fig. 2 and pl. XL), more precisely a neck pot beaker as defined by Lehmann[1], was found to have been placed upside down probably in a shallow pit, the contours of which, however, were not discernible. Although the original surface had been disturbed by cultivation, and subsequently covered by a thick layer of arable ground, the bottom of the beaker appeared to have lain only about 5–10 cm underneath the arable. Other finds are lacking, as for example phenomena that would have given further information as to the puzzling character of the pot-beaker depots in general (see Lehmann 1965). The upside-down position however gives support to the statements of former investigators in calling this position one of the features of these depots.

The brown gritty beaker is nearly complete, with only a few fragments missing. The measurements are:
height 0.35 m
rim diam. 0.29–0.31
bottom diam. 0.106
wall thickness 0.009–0.011.

This Velp vessel is the twenty-fifth in a sequence of comparatively complete, published pot beakers, and is the most squat of them all. The rim is internally bevelled, at some places rounded. Elements of decoration are: on the neck, a row of pits under the rim and thereunder 6 pinched-out bands, the 2nd and 5th having two-sided bumps; on the shoulder, vertical pseudo-cord-impressions; on the body, 23 pinched-out bands, the 5th has two-sided bumps, the 7th and 8th, 10th and 11th, and further every alternate one has four-sided bumps.

An interesting detail is the convex bottom, a type not yet represented by any other pot beaker, although up till now only four with complete bottoms were known. This type of bottom is quite a common feature of Dutch bell beakers, a fact that accords with the cultural affiliation of the pot beaker as advocated by Lehmann.

The fact that it was found on the south-eastern fringe of the Veluwe puts the Velp beaker outside the great concentration area of this ceramic group, namely the western Veluwe (see Lehmann 1965, fig. 22). Prehistoric finds are comparatively sparse in this south-eastern area. In the region of Velp the only beaker find previously known applies to a few handfuls of sherds belonging to one or more Veluvian bell beakers in the Rozendaalse Zand at a distance of 4½ km from our findspot (fig. 1: cross).[2]

The beaker is now in the collection of the 'Gelderse Archaeologische Stichting' at Arnhem.

1 L.Th. Lehmann, Placing the Pot Beaker, *Helinium* 5, 1965, 3–31; id., Een potbeker uit Speulde, gem. Ermelo, prov. Gelderland, *Berichten R.O.B.* 14, 1964, 23–6; id., Pot Beaker News, *Helinium* 7, 1967, 65–9.

2 D.J.G. Buurman, Over 'Tardenoisien' van het Rozendaalse Zand, *Bijdr. en meded. Ver. Gelre* 45, 1942, 78–88.

W.A. VAN ES

Hand-Made Pottery of the Roman Period from Kootwijksche Zand near Kootwijk, Geld.

The study of the hand-made pottery is absolutely vital to the knowledge of the Roman period in this country. However, for large parts of the Netherlands, especially the eastern and southern provinces, this study is still practically in its infancy and progressing surprisingly slowly.
Up until now large find complexes deriving from systematic excavations have remained scarce and their publication takes considerable time. In the meantime many smaller finds turn up at the most unexpected moments and places; they often pass into private collections or find their way unnoticed to obscure shelves in museums. We think it of importance that as many as possible of these finds should be described and illustrated, even if few details can be given concerning their find-circumstances.
With these thoughts in mind we offer the space of these columns to everyone wishing to contribute a small descriptive note on Roman period hand-made pottery. By illustrating the few undermentioned sherds from Kootwijk we follow the example set by Mr. A. van Sprang who in the 1962–3 volume of the *Berichten*[1] published a collection of Roman period sherds found at Ermelo.

In 1963–4 Mr. A. Stikwerda, Kootwijk, discovered a number of sherds, iron slags and two bronze brooches at a site situated about 1.5 km southeast of the village of Kootwijk in the drift-sand area called Kootwijksche Zand (fig. 1). These objects were found in (and underneath?) a layer of probably medieval arable soil. The arable layer had a thickness of about 50 cm and was covered by *ca.* 30 cm of drift sand. The finds must have come from a habitation layer of the Roman period which had partly been destroyed by the medieval tillage.[2] Strictly speaking they are stray finds but they are probably of roughly the same date.
The finds are now in Mr. Stikwerda's private collection. We

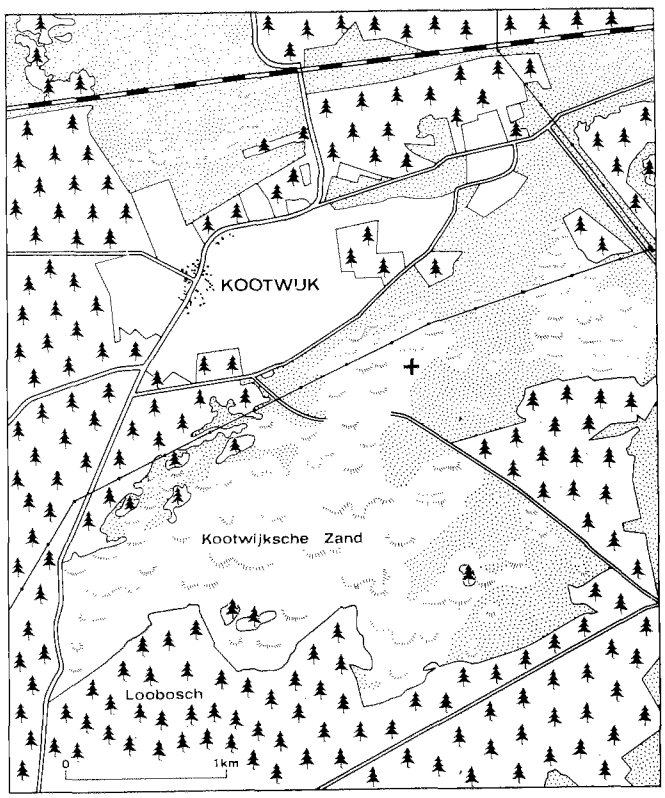


Fig. 1. Kootwijk. The site, findspot indicated by cross

arable land
forest
shifting sand and heath

1 A. van Sprang, *Berichten R.O.B.* 12–3, 1962–3, 25–38.
2 W. A. van Es, *Nieuwsbull. K.N.O.B.* 1965, 43.

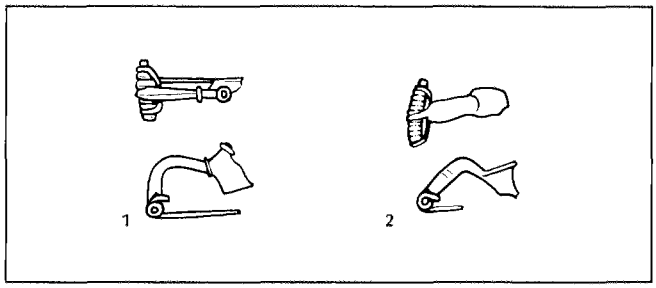


Fig. 2. Kootwijk. Brooches. Scale 1 : 2

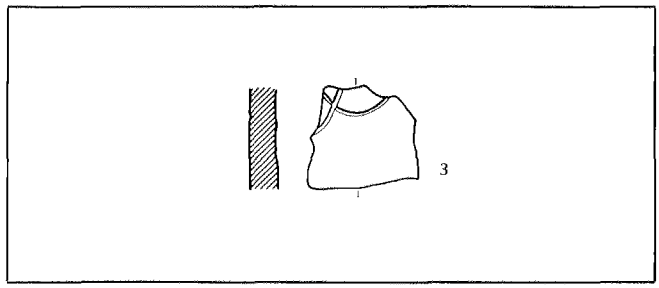


Fig. 3. Kootwijk. Sherd of wheel-made pottery

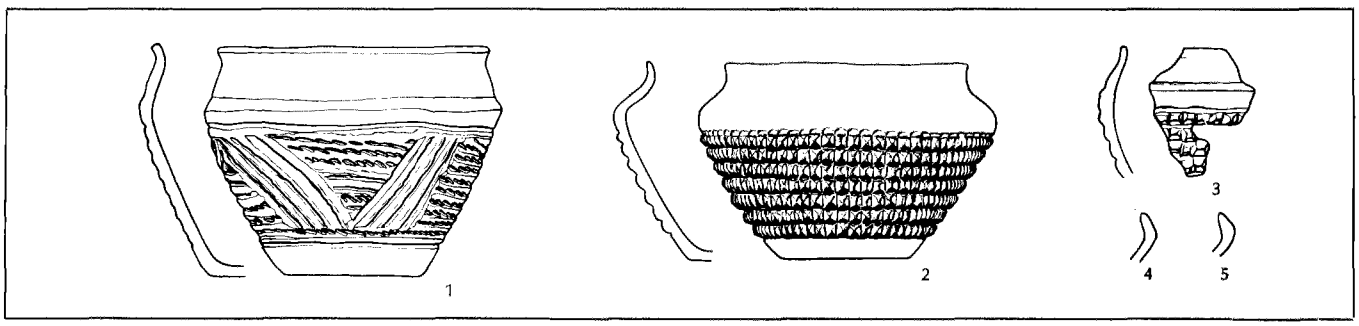


Fig. 4. Kootwijk. Flat-based cups

thank him for his kind permission to publish the brooches and a selection from the pottery sherds.

From 20.IX until 8.X.1965 and again from 26.IX until 7.X.1966 the Instituut voor Prae- en Protohistorie (I.P.P.) of Amsterdam University carried out a trial excavation in the immediate vicinity of the find-spot.[3] This excavation, which will be continued over the next few years, provided proof of habitation during the early medieval period and confirmed our assumption of the presence of a Roman period settlement.

The brooches

Both brooches are made of bronze.

One has an S-shaped bow with lozenge-shaped section, a six-coiled spiral (three coils at either side of the bow) and a long needle-catch; the ends of bow and foot, as well as both ends of the spiral axis are bound with bronze wire (fig. 2: 1). It seems as if there has been some decoration (a knob?) at the upper end of the bow near the spiral. The tip of the needle has disappeared. The brooch belong to Bartel's[4] type of the *einfache Armbrustspiralfibeln mit Nadelhalter* which he dates to the second quarter of the 3rd century.

The other brooch also is an *Armbrustspiralfibel* (fig. 2: 2); it may be compared to certain types of *Kniefibeln.*[5] Its thick bow with sub-rectangular section is bent at a right angle. The spiral shows six coils at either side of the bow; the ends of the spiral axis were bound with bronze wire (broken of at one end). The foot is damaged and its shape is therefore not completely clear: it must have been flat and rather

3 H.H. van Regteren Altena, *Nieuwsbull. K.N.O.B.* 1965, 136–7; 1966, 122–3.

4 W. Barthel, Einzelfunde, in: *Der Obergermanisch-Raetischen Limes des Römerreiches*, Lief. 32: Zugmantel, Heidelberg 1909, 79, Nr. 71.

5 R. von Uslar, *Westgermanische Bodenfunde des ersten bis dritten Jahrhunderts nach Christus aus Mittel- und Westdeutschland*, Berlin 1938 (Germanische Denkmäler der Frühzeit, 3), T. 19–21.

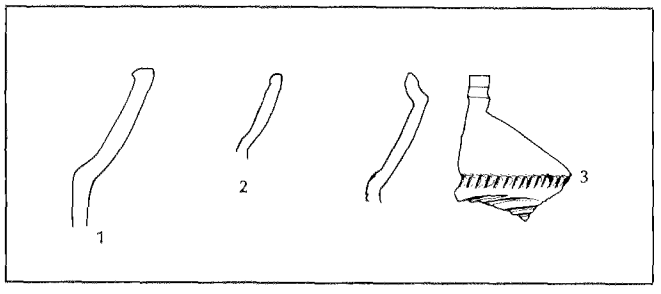


Fig. 5. Kootwijk. High-necked sherds

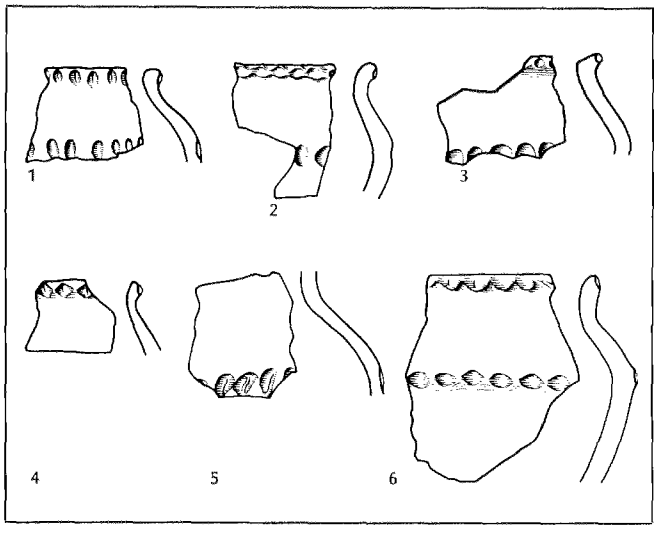


Fig. 6. Kootwijk. Heavy-walled sherds with 'fingertip' impressions

broad (disc-shaped?). The under end of the long needle-catch and part of the needle have been broken off. In view of the long needle-catch the brooch is probably not earlier than the late 2nd century.

The sherds

There is one sherd of wheel-made pottery (fig. 3). It is thick-walled and slightly porous with buff-coloured outer and inner surface and grey core. The outer surface is decorated with grooves; the inside has turning ridges. The sherd is probably Roman and may come from a large *dolium*.

All other sherds are of hand-made pottery. The paste is mostly stone-tempered; the section often presents a certain porosity showing that vegetable ingredients also were used for tempering. One sherd of fine smooth ware has been tempered with small lumps of white material (calcinated bone?) also showing on the outer surface.

Colours vary from yellow to greyish black.

The material is so fragmentary that it is often impossible to reconstruct the complete shape of the pots.

a A few sherds represent a broad, flat-based cup with a more or less sharp shoulder/belly transition, broad shoulder and short, bent-out neck of smooth pottery (fig. 4).

Fig. 4 : 1 has a sharp shoulder/belly transition; immediately above the transition there is a groove on the shoulder. The belly is decorated with a broad zone of corn-ear pattern *(Ährenmuster)* bordered by broad grooves.

Fig. 4: 2 has a more flowing profile. Its belly is decorated until just above the base with so-called *Warzen*ornament. The profile of another sherd, also decorated with *Warzen*, is even less characteristic (fig. 4: 3).

b Three sherds come from pots with high, oblique necks and very narrow, rounded shoulders of fine, smooth pottery. Two have slightly thickened, rounded rims (fig. 5: 1, 2). The overturned rim with retaining groove for a lid (?) of the third one is remarkable. The latter is decorated with a row of short, oblique grooves on the shoulder, and longer, more horizontal grooves below (fig. 5: 3).

c Some sherds represent rather heavy-walled pots with more or less sharp shoulder/belly transition, broad, oblique shoulder and short, bent-out neck; the outer edge of the rim and the shoulder/belly transition are decorated with a row of 'fingertip' impressions (fig. 6: 1–6).

d Two rim sherds from short-necked bowls are illustrated in fig. 7: 1, 2. The rim sherds of fig. 7: 3, 4 probably belonged to rather narrow-mouthed pots. The outer surface of these four sherds is smooth.

e Fig. 8: 1–3 illustrates three rim sherds of flat plates. One of them is thickened and has a collar decorated with 'fingertip' impressions. The rim sherd of fig. 8: 4 belonged to a somewhat deeper bowl; the outside shows grooved ornament and there are also two grooves on top of the rim.

f Decoration is found in many forms: broad, deep grooves (fig. 9 : 1, 9), broad, shallow grooves (fig. 9 : 2), narrow, deep grooves (fig. 9: 3, 4), round indentations (fig. 9: 4, 5), corn-grain shaped indentations (fig. 9 : 6–8, 10, 11), *Warzen* of the flat and the more plastic variety (fig. 4 : 2, 3; fig. 9 : 12, 13).

g Two biconical spindle-whorls with small notches at their largest circumference, and a curious pottery bead complete the picture (fig. 10).

It is not yet possible to establish the exact date of the sherds. The two brooches suggest that they belong to the 2nd/3rd century A.D.

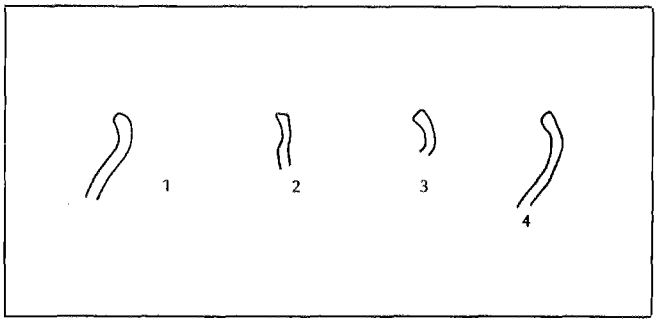


Fig. 7. Kootwijk. Sherds of short-necked bowls and narrow-mouthed pots

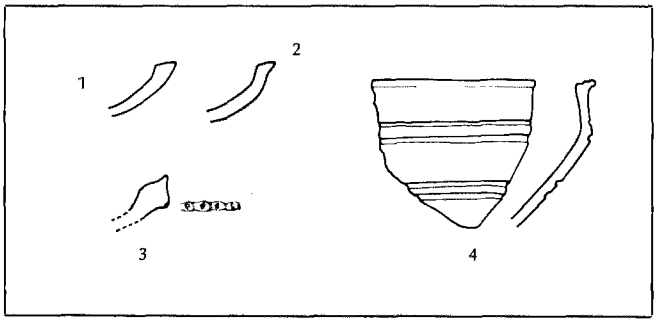


Fig. 8. Kootwijk. Sherds of plates and bowl

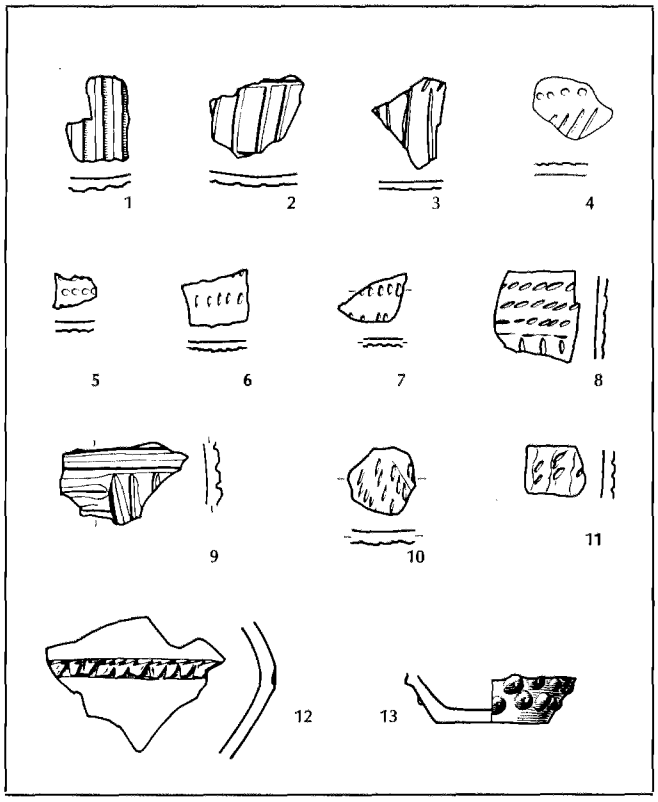


Fig. 9. Kootwijk. Decorated sherds

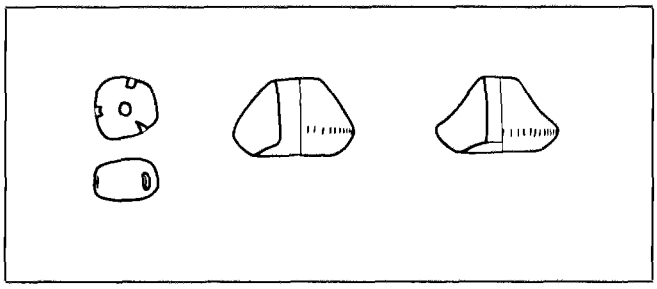
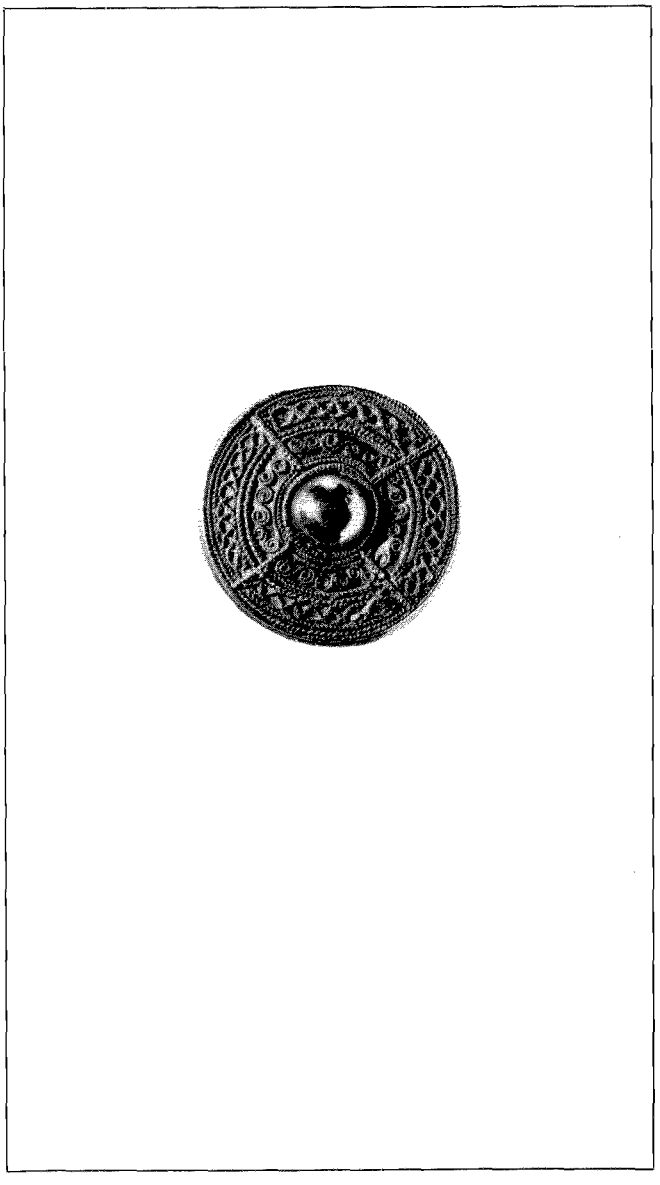


Fig. 10. Kootwijk. Spindle-whorls and pottery bead



Gold mantle brooch with disk riveted to the middle of the bow, dated to the middle of the 7th century, found in the cemetery at Hoogebeintum near Ferwerd (Friesland). Fries Museum, Leeuwarden

Gold hoard, buried circa A.D. 625, found at Bessens near Wieuwerd (Friesland). Rijksmuseum van Oudheden, Leiden

Codex Ragyndrudis, damaged by sword cuts made during the murder of Boniface at Dokkum (Friesland) in A.D. 754. Landesbibliothek Fulda ▶

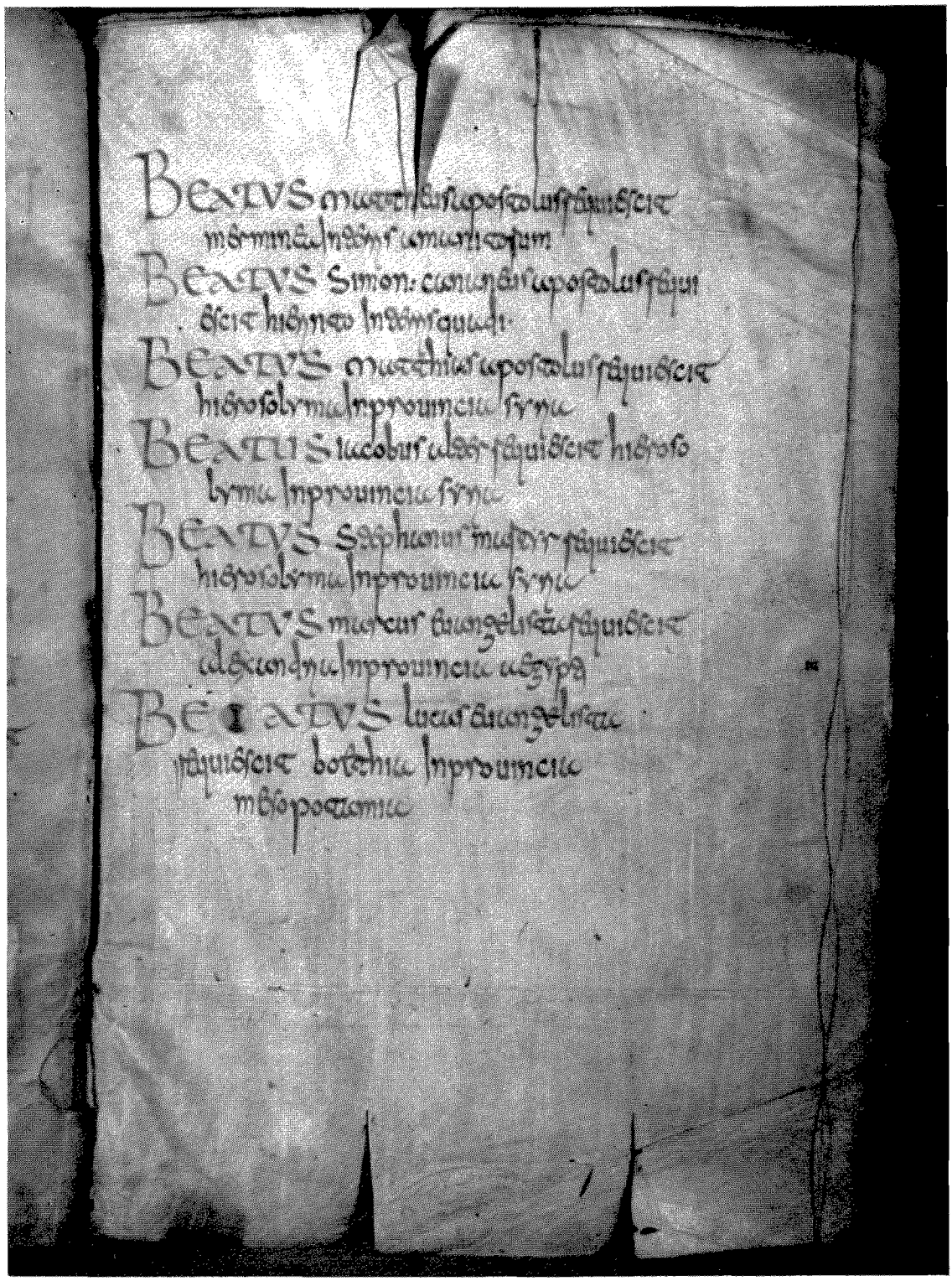
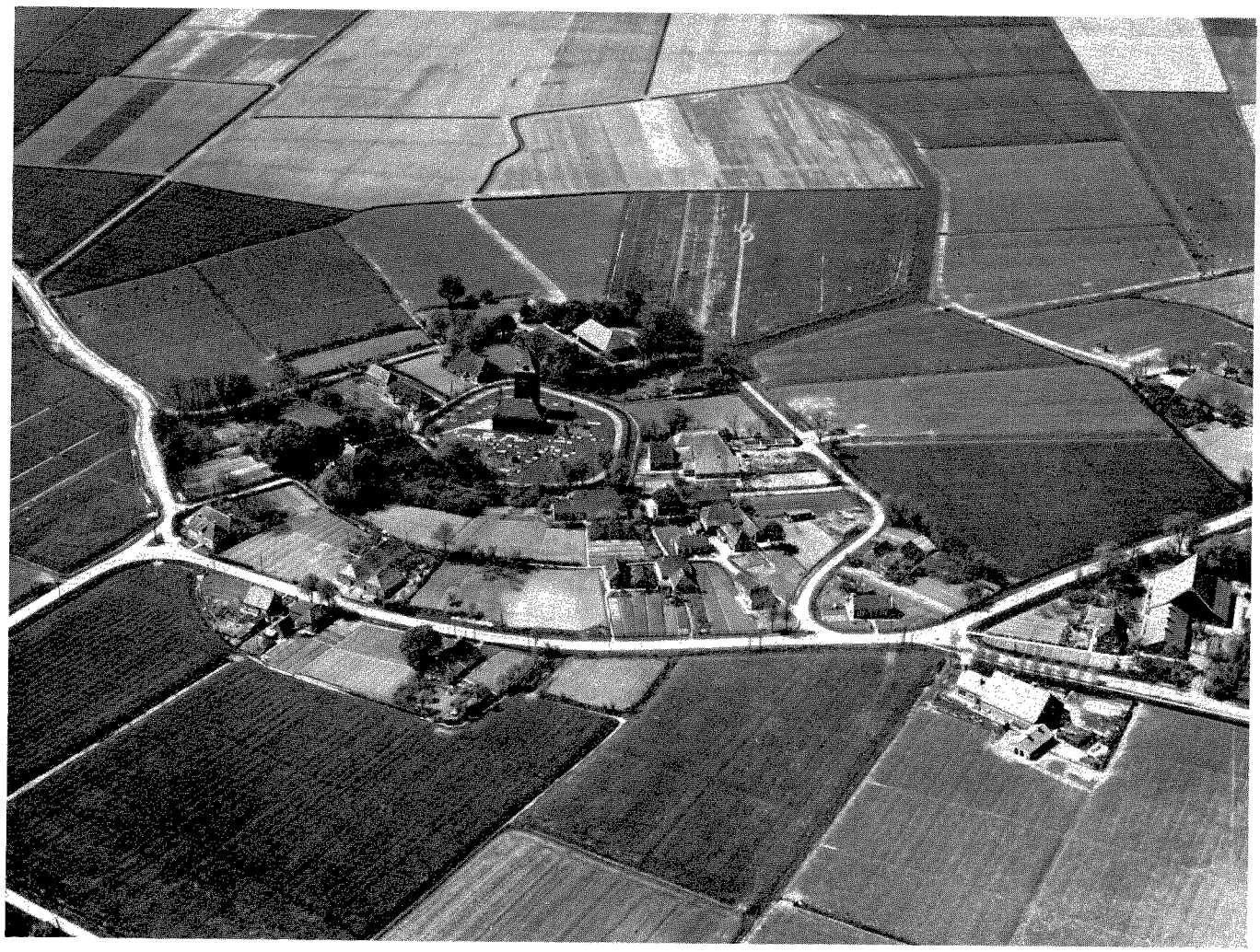


PLATE III

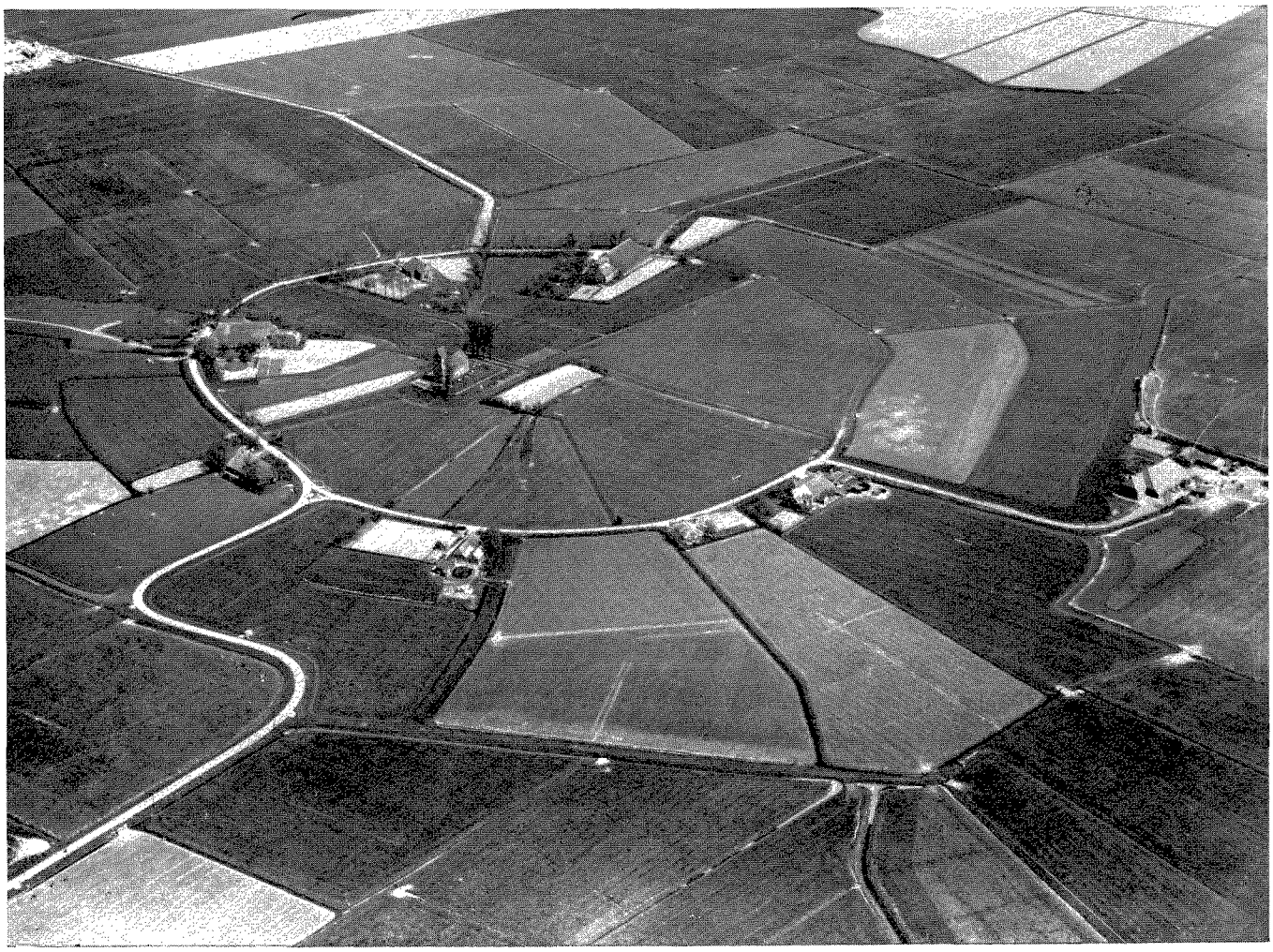
Liudger chalice. Probsteikirche Essen-Werden.

Earthenware drinking bowl, decorated with a cross, found at Tjalhuizum near Sneek (Friesland). Fries Scheepvaartmuseum, Sneek.

Amulet, dated to the 10th century, found at Jorwerd (Friesland). Fries Museum, Leeuwarden



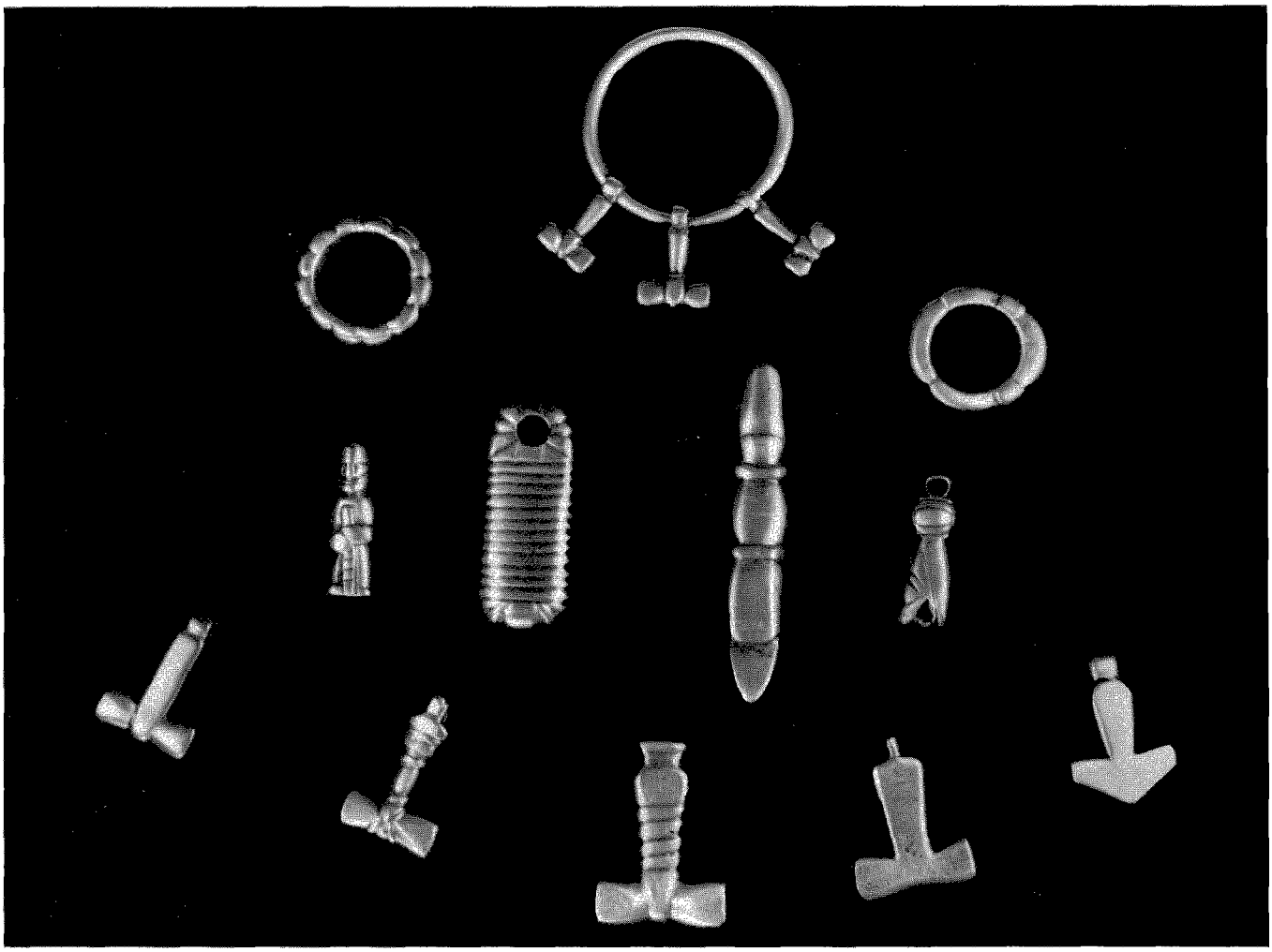
Terp village Uitwierde (Groningen)



Terp village Marsum (Friesland)

Terp village Hallum (Friesland)

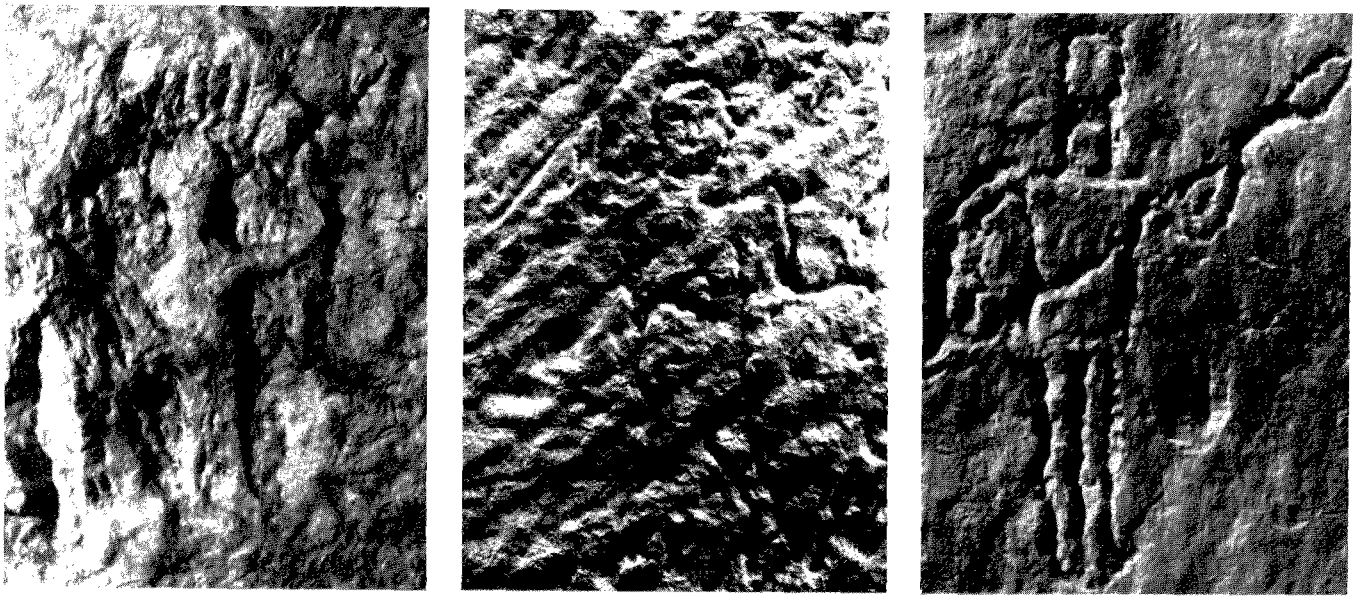
Middelburg (Zeeland). Within the 17th-century bastions, the circular plan of the oldest streets in the heart of the city stands out clearly, showing the origin along the ramparts and ditches of the fortifications set up against the Norsemen in the second half of the 9th century



Silver hoard, buried at Winsum (Friesland) in the second half of the 10th century; its provenance is Scandinavian, however. Fries Museum, Leeuwarden

The 'Trichterveld', Maastricht. Three views of the cast of the carved figure

The Brunholdisstuhl, Bad Dürkheim. Three of the carved figures

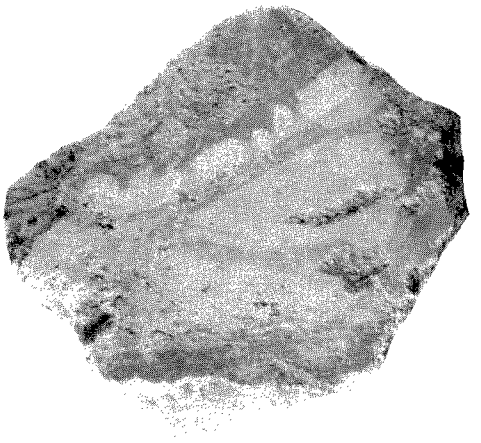


Over-Kirkhope, Selkirkshire. Carved figure

Panels and marbled dado, water colour, for nos. see p. 121

1

2



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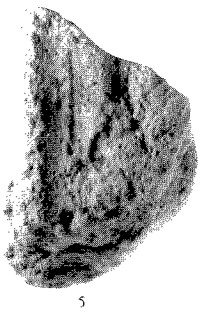

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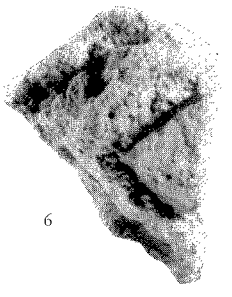

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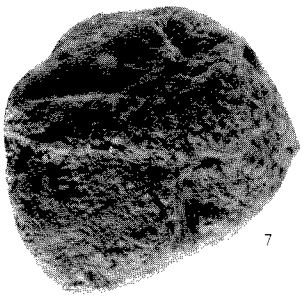

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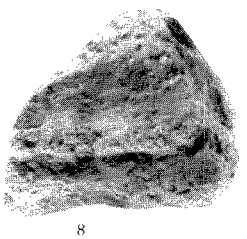

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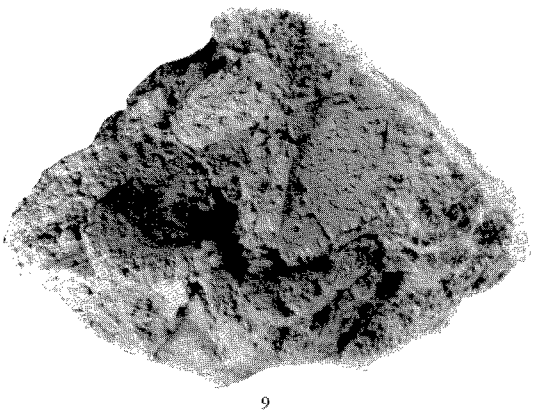

9

Panels and marbled dado (scale 1 : 3)

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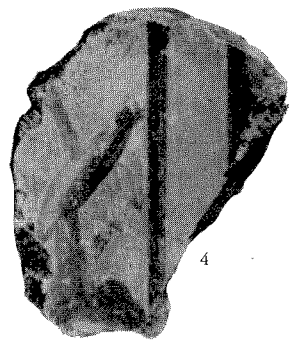

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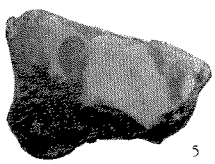

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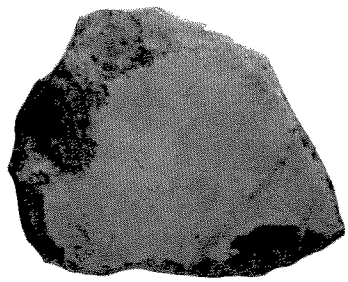

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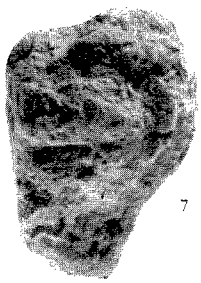

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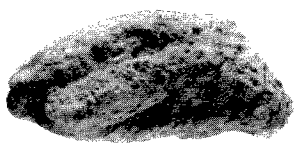

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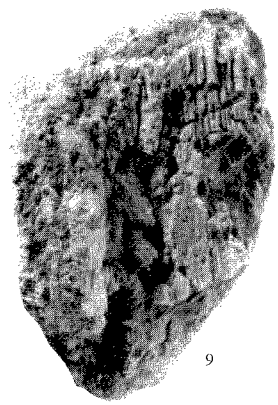

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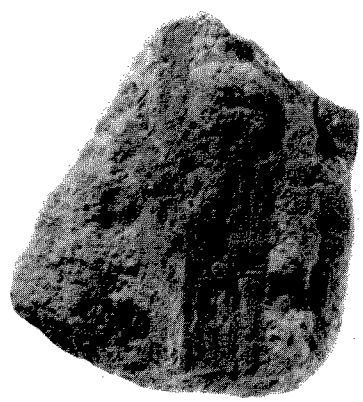
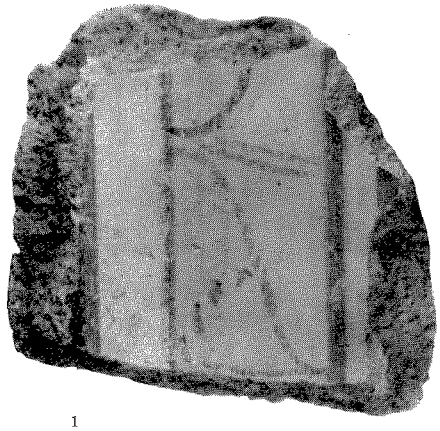


10

Garden (scale 1 : 3)

Garden, water-colour; for nos. see p. 133

PLATE XVA



1

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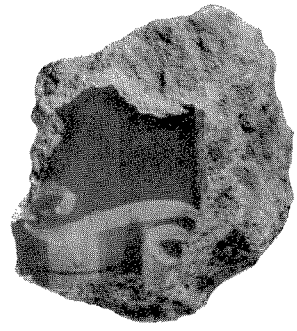

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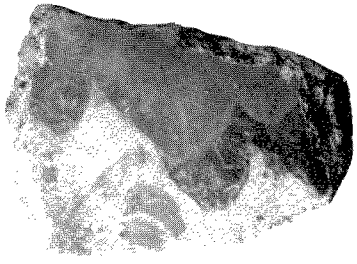

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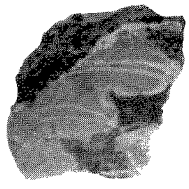

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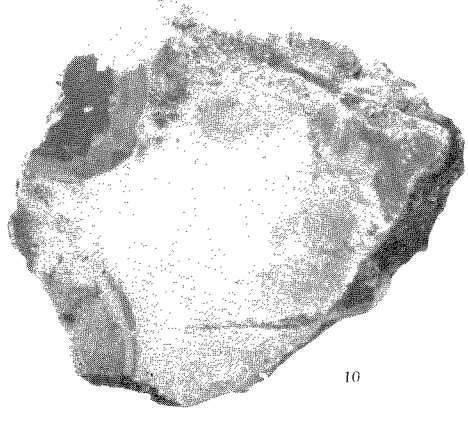

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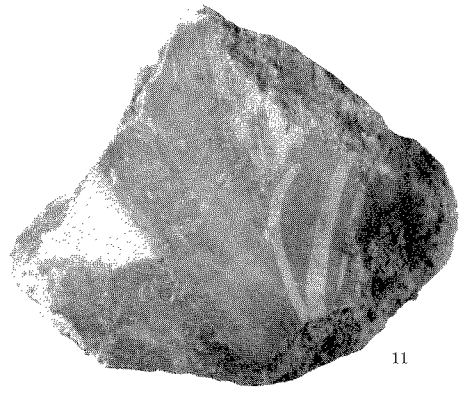
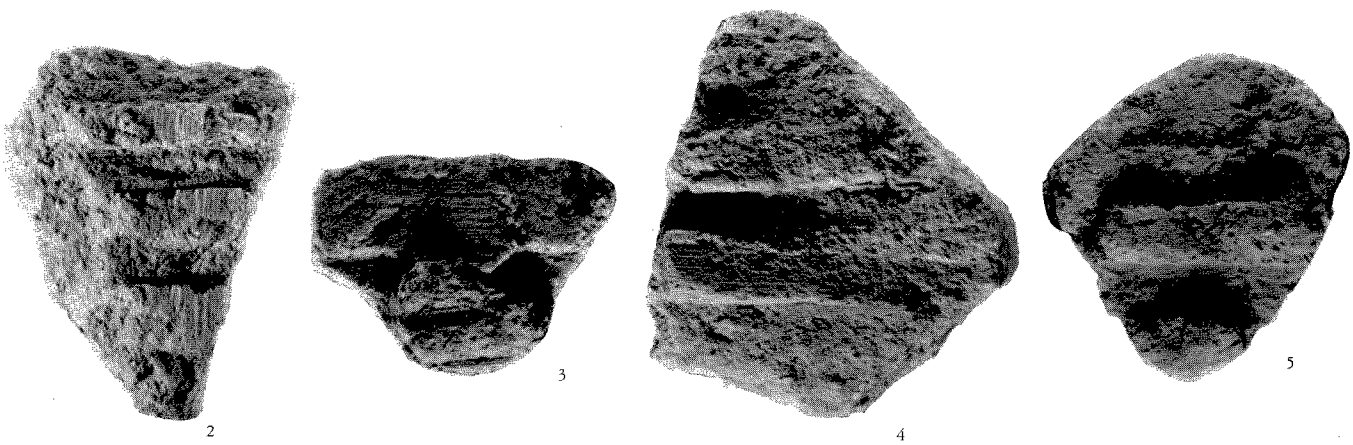


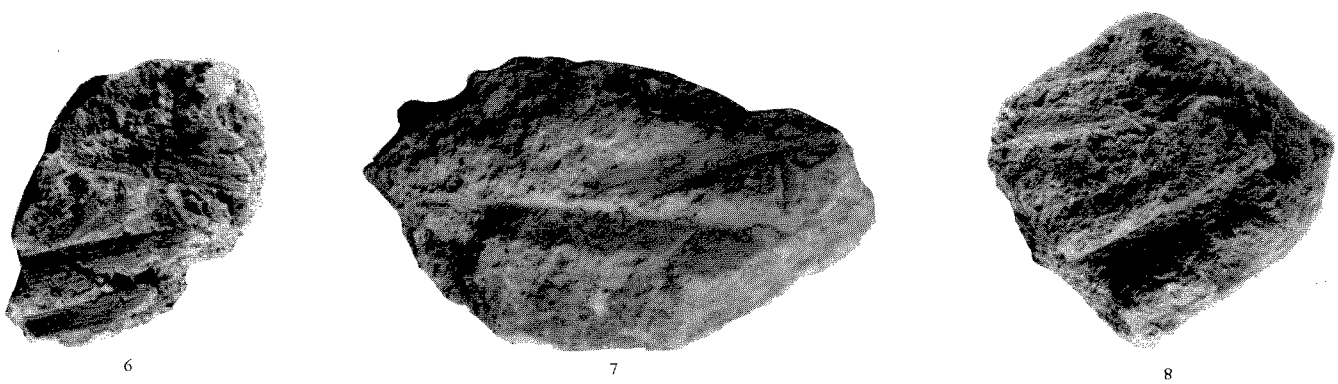
11

Garden (scale 1 : 3)

1a 1b



2 3 4 5



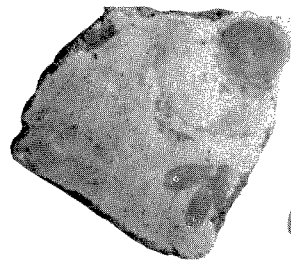
6 7 8

Floral pattern (scale 1 : 3)

Floral pattern, reconstruction, water-colour

1

2



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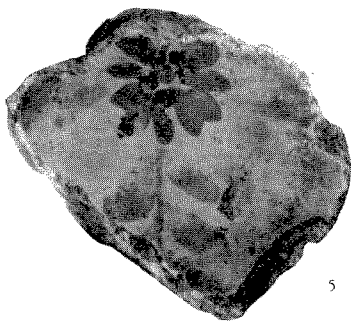
4



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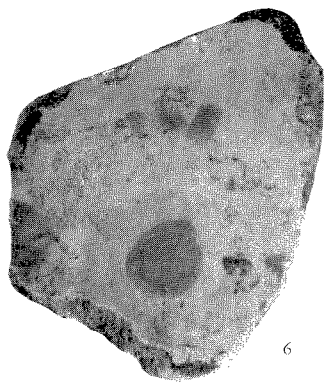

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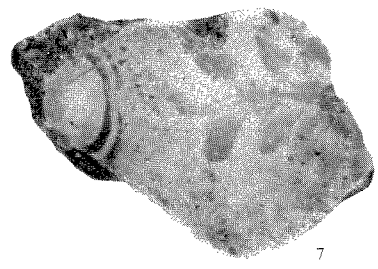

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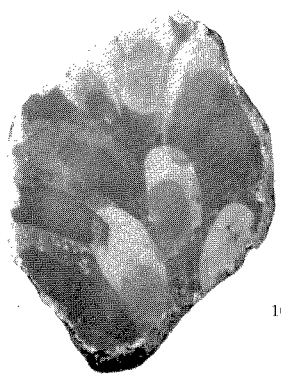

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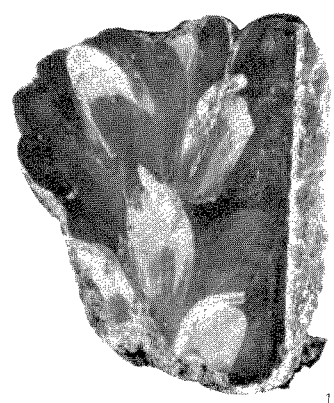


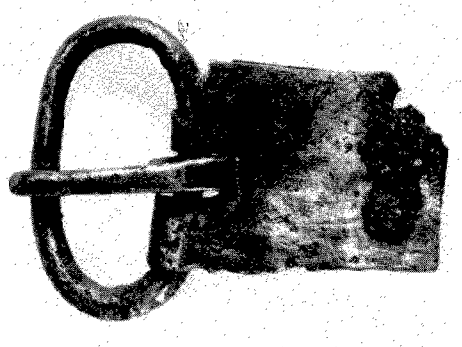
11

Floral pattern (scale 1 : 3)

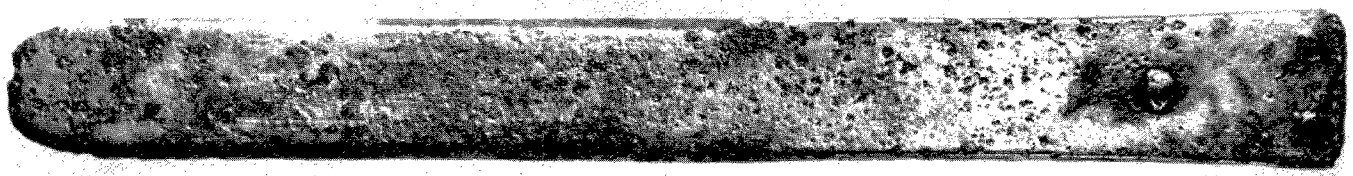
1 Leersum, Nr. 8

2 Leersum, Nr. 5

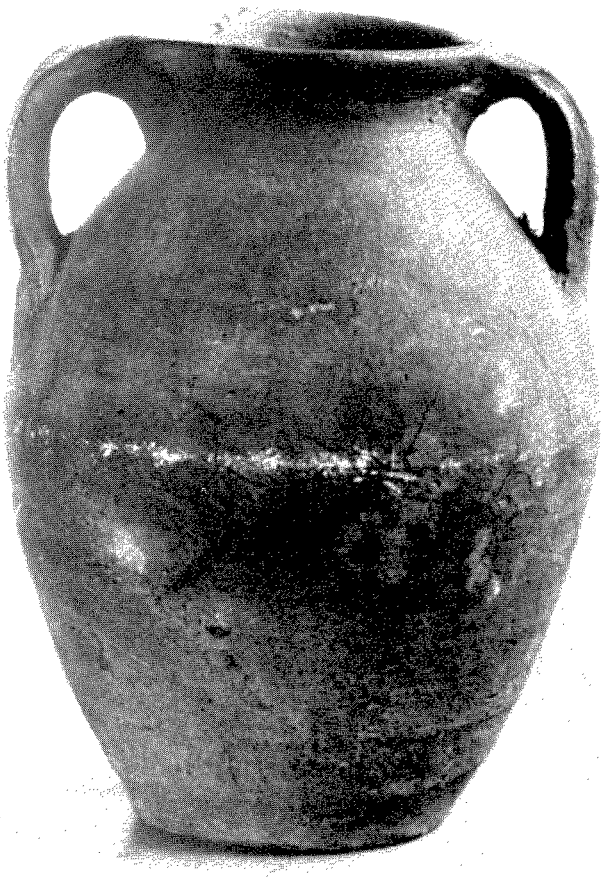
3 Leersum, Nr. 6



4 Leersum, Nr. 13



1 Leersum, Nr. 12



2 Leersum, Nr. 21

3 Leersum, Nr. 28

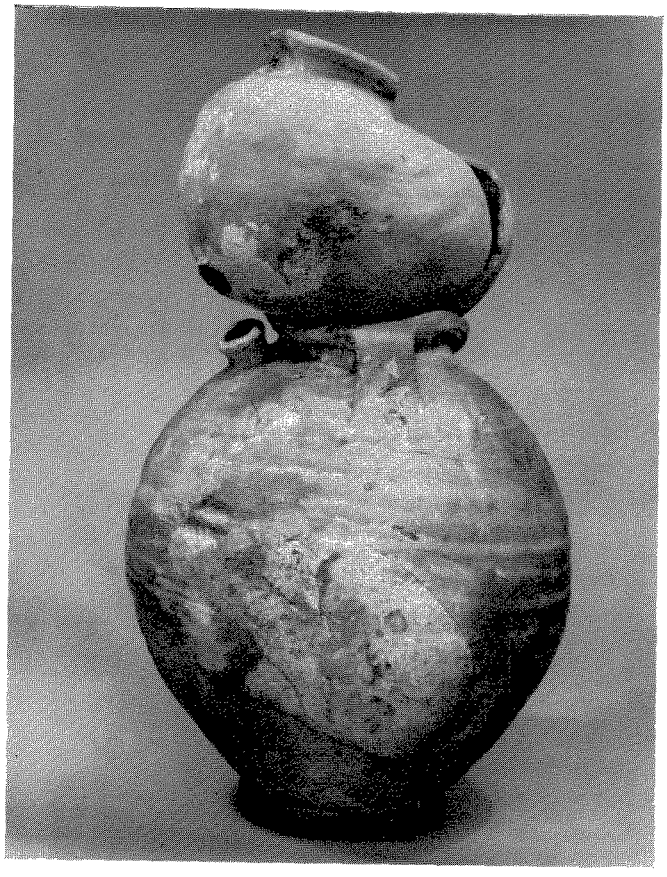
1 Leersum, Nr. 27

2 Leersum, Nr. 29

3 Leersum, Nr. 22

Nieuwenhagen. Handgevormde kogelpotten

Nieuwenhagen. Op de draaischijf vervaardigde tuitpot en handgevormde kogelpot



1 Nieuwenhagen. Op de draaischijf vervaardigde tuitpot met daaraan vastgebakken handgevormde kogelpot

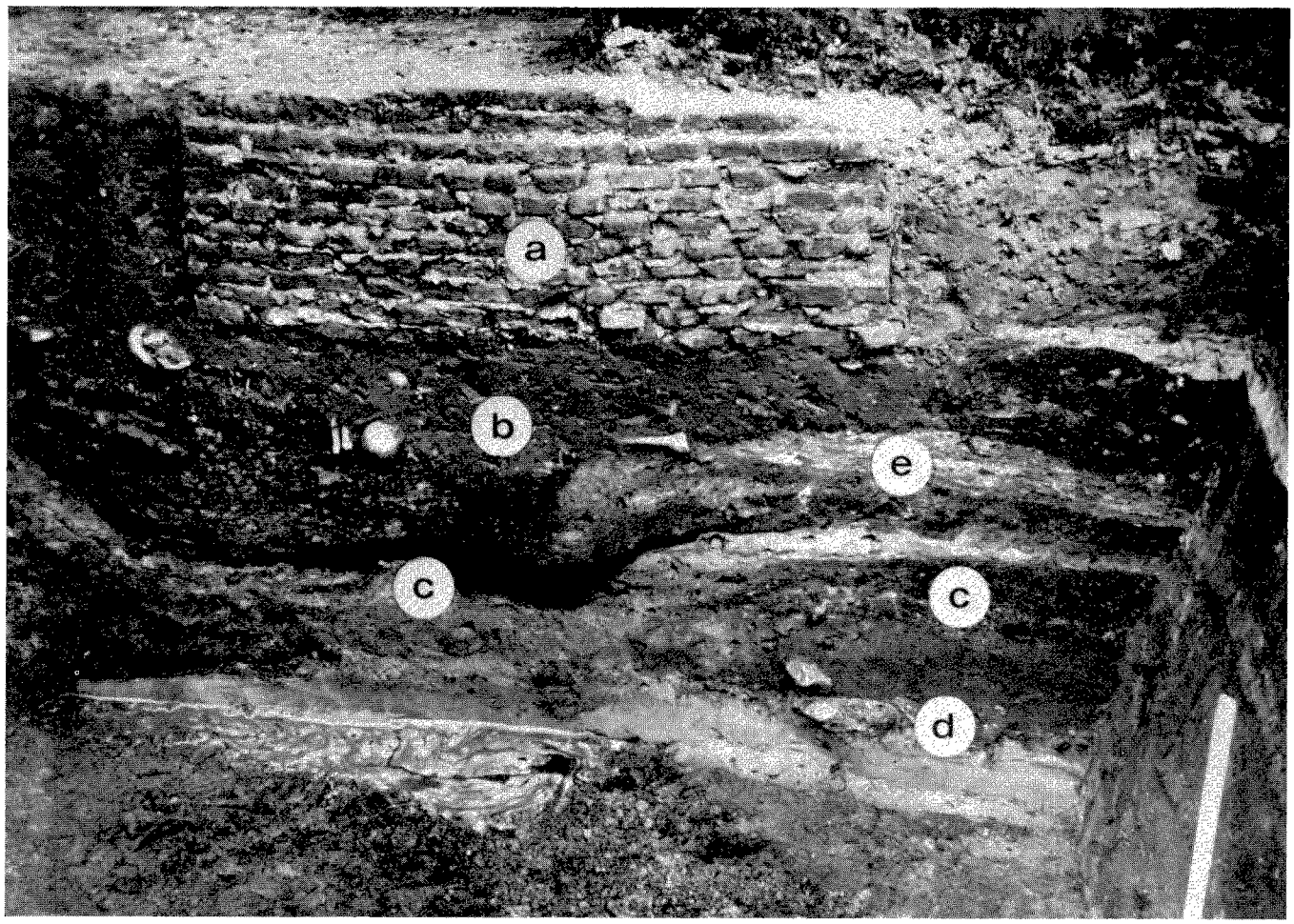
2 Nieuwenhagen. Op de draaischijf vervaardigd schaaltje en handgevormd potje

1 Tubular spout and horse's head of a knight-jug. Gemeentelijk Museum, Aardenburg

2 Upper part of knight-jug found in Bruges. Gruuthuse Museum, Bruges

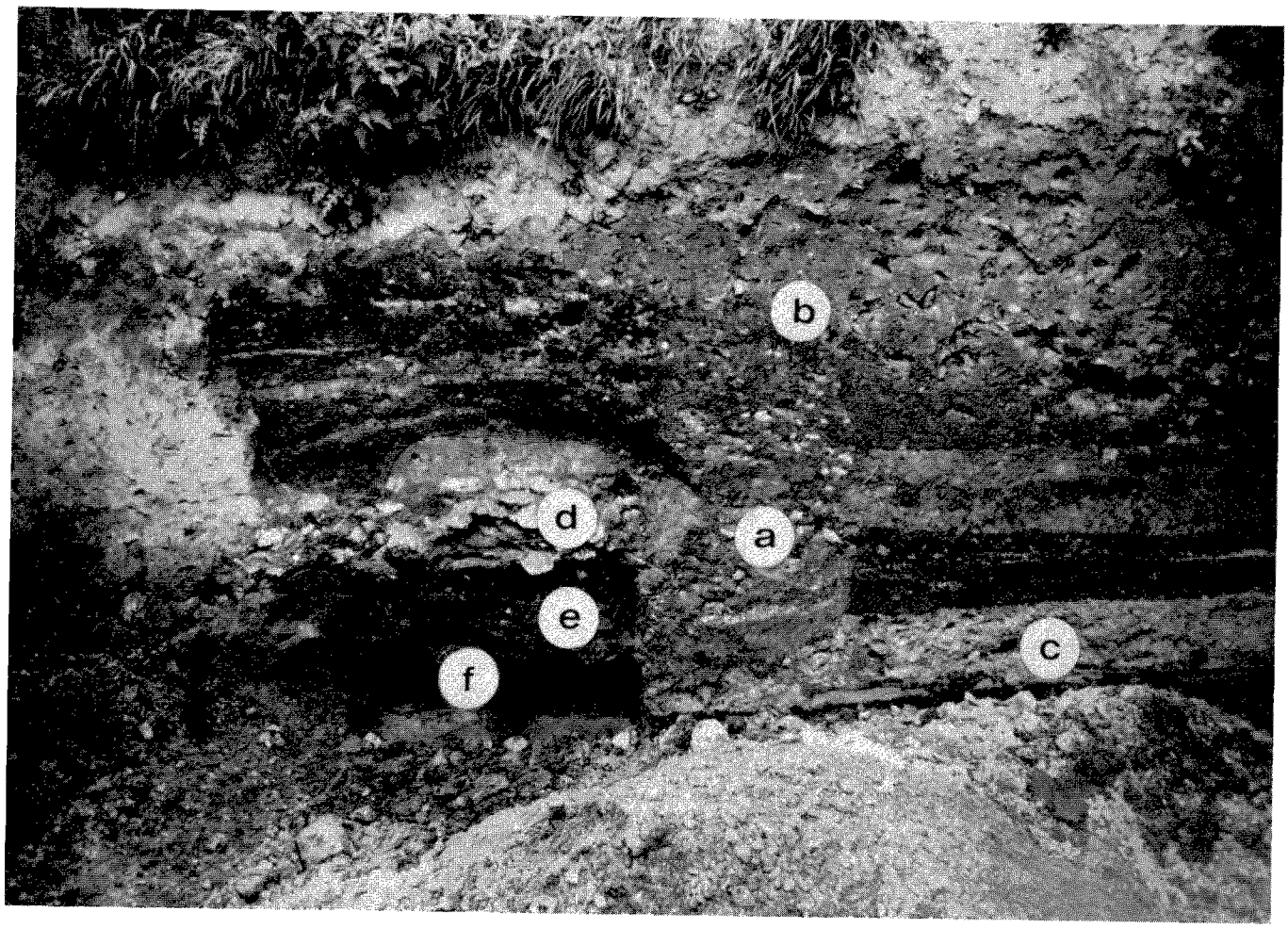
3 Mortar of Caen stone found in Middelburg. Zeeuws Museum, Middelburg

Green-glazed knight-jug found in Nottingham. Castle Museum, Nottingham



Aardenburg. Bakstenen sarcofaag in zijaanzicht, van de buitenzijde gezien (a); vgl. afb. 1 bij 1 (pag. 211): deze sarcofaag is aan de binnenzijde beschilderd met een rood gaffel- of manrunekruis op een wit vlak (vgl. afb. 2 op p. 212). Onder de sarcofaag een laag met veel menselijke skeletresten, waarschijnlijk uit de 13de eeuw daterend en behorend tot het kerkhof van de vroegere Mariakerk (b). De Romeinse laag is in dit profiel over de volle breedte door een kreekvormige geul uitgespoeld (c); geheel onderin nog resten van Romeins puin (d). Op de zavelige tot kleiïge opvulling van de kreek ligt een cultuurlaag uit de 11de/12de eeuw waarin de bewerkte benen voorwerpjes (pl. XXXI: 2, 3 en 4) zijn gevonden (e).

Aardenburg. Paalsporen onder de uitbraaksleuf van een Romeins gebouw



Aardenburg. Profiel van de vindplaats van de vroege tegels (pl. XXIX:1; XXX). Bij a de uitbraaksleuf van de fundering van een bakstenen gebouw; b vindplaats tegels; c opvullingslaag van Paniseliaanse kiezelzandsteen, behorende bij het bakstenen gebouw; d Romeins bouwpuin, natuursteen; e Romeinse cultuurlaag; f oud humusoppervlak (bos/heide) op gepodzoliseerd dekzand

1 Aardenburg. Ornamentale eenheid van vier tegels.

2 Aardenburg. Centaurtegel, gevonden op de Oude Vlasmarkt

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3

4

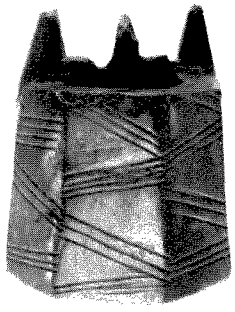
5

6

7

Aardenburg. Tegels met ingedrukte en daarna met een witbakkende klei opgevulde figuren; datering omstreeks 1300?

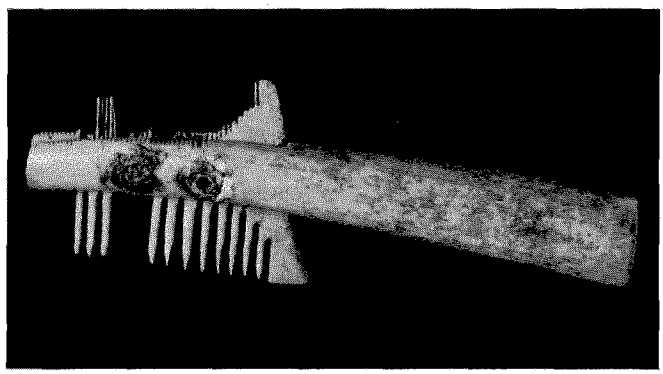
1 Aardenburg. Strijkglas ('linensmoother') uit de 13de/14de eeuw; diam. 6.5 cm, hoogte 1.8 cm



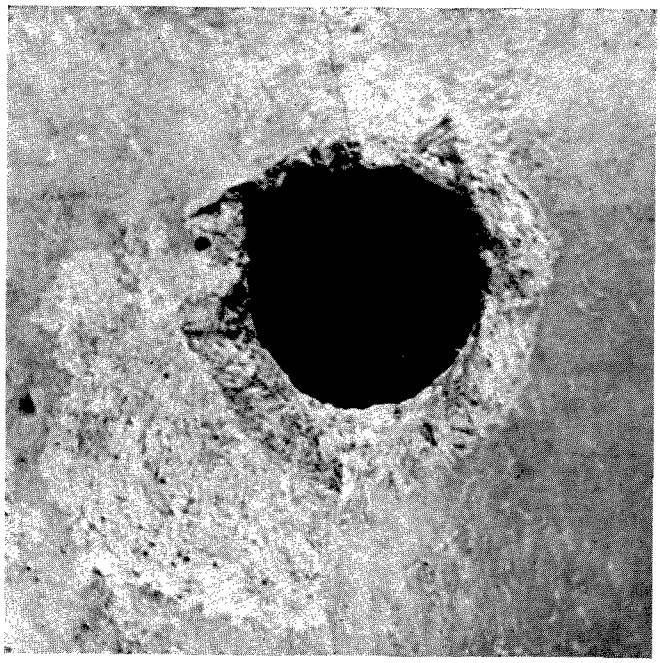
2 Aardburg. Benen voorwerpje, gebruik onbekend; hoogte 3.6 cm

3 Aardenburg. Benen naald: lengte 6 cm

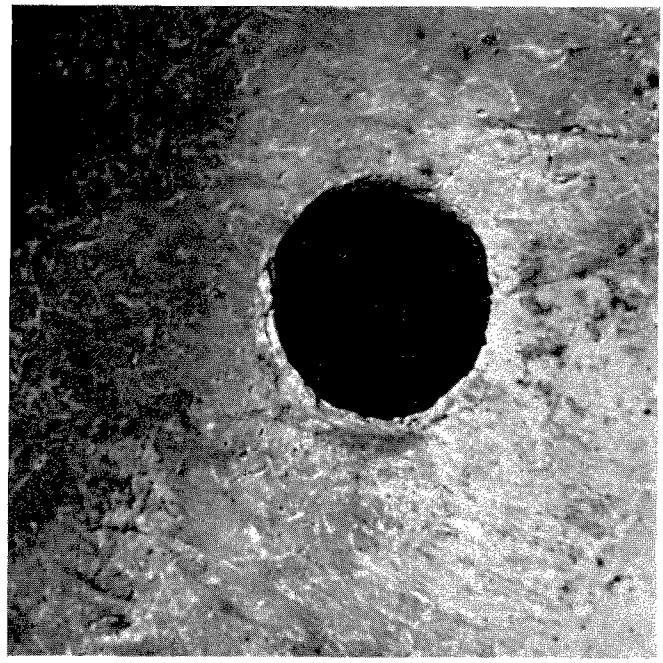
4 Aardenburg. 'Weefkam'; lengte 6.5 cm



5 Aardenburg. Benen kam uit de 11de of 12de eeuw (afgebroken); lengte 15 cm

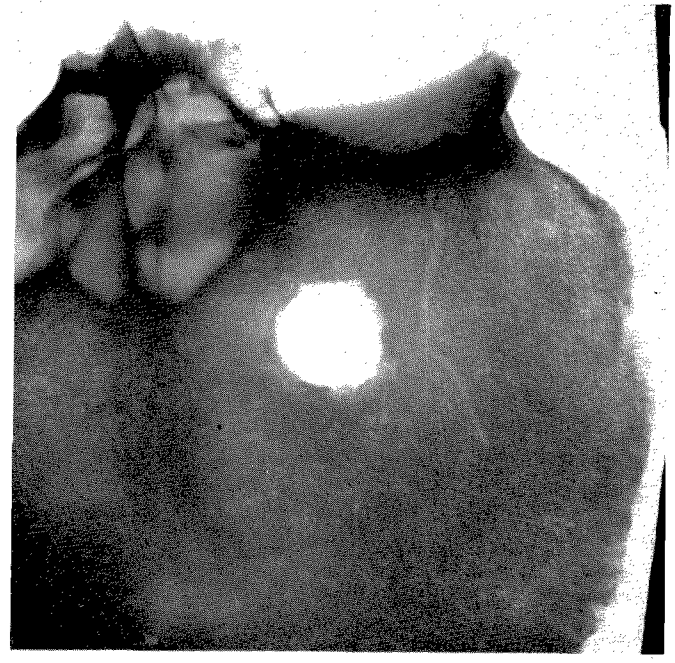


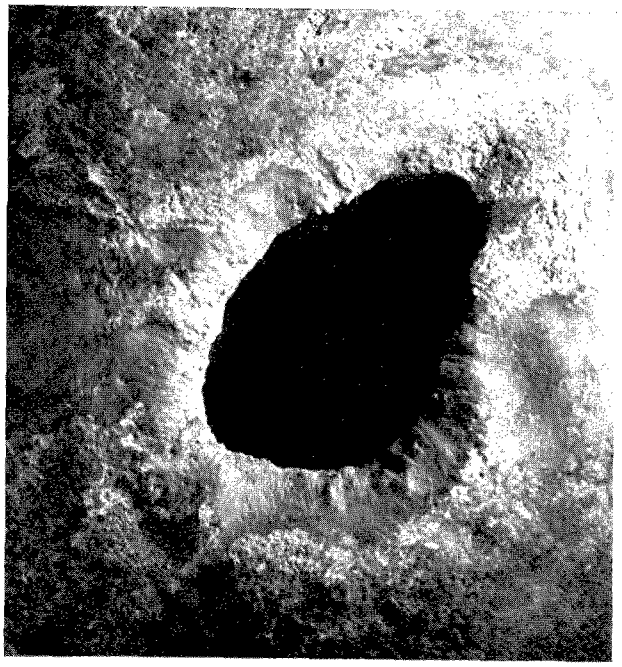
1 Winsum. Outerside



2 Winsum. Inside

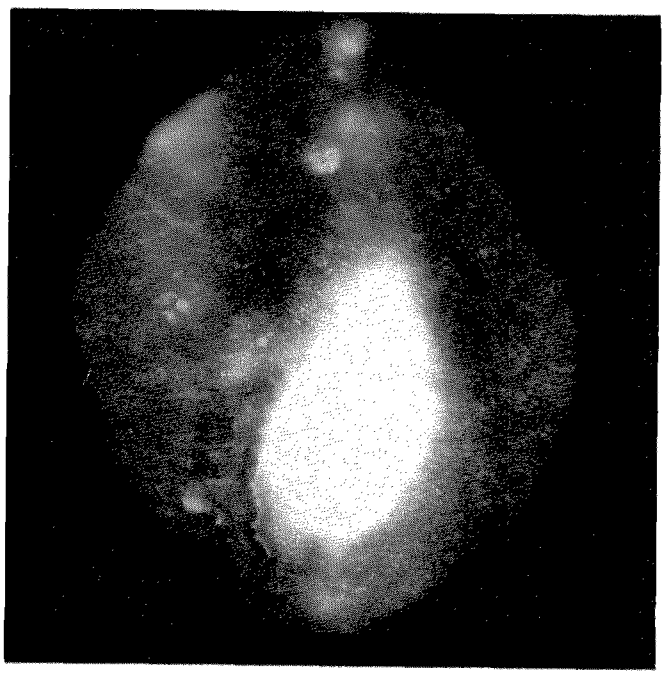
3 Winsum. X-ray photograph



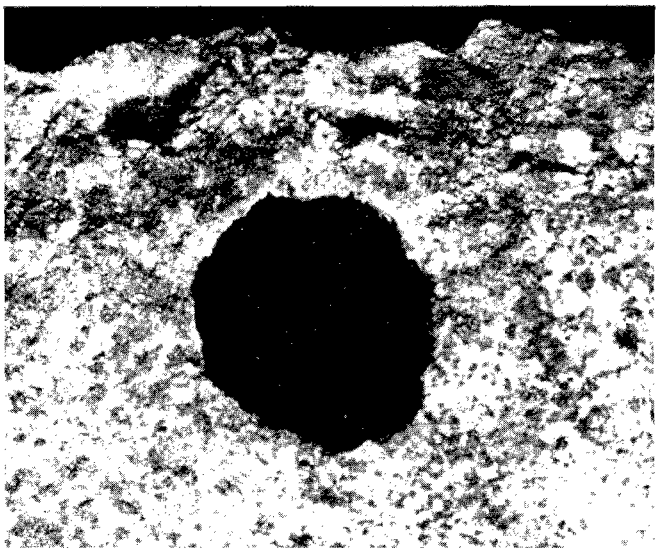


1 Ferwerd. Outerside

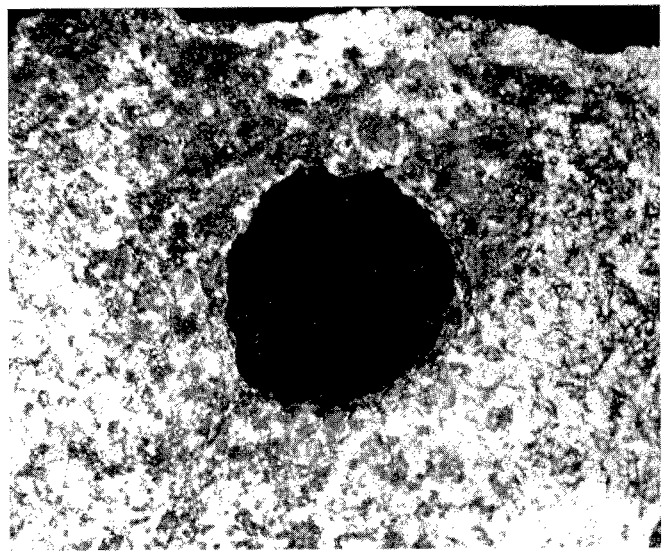
2 Ferwerd. Inside. The defect has been photographed through the *foramen magnum*. To obtain the right illumination the inside of the skull was lined off with a piece of aluminium foil, which was brought in through the *foramen magnum*. In this way some sort of reflector was made. Now a light beam was thrown obliquely through the defect from outside on this reflector, illuminating the defect and its surroundings.



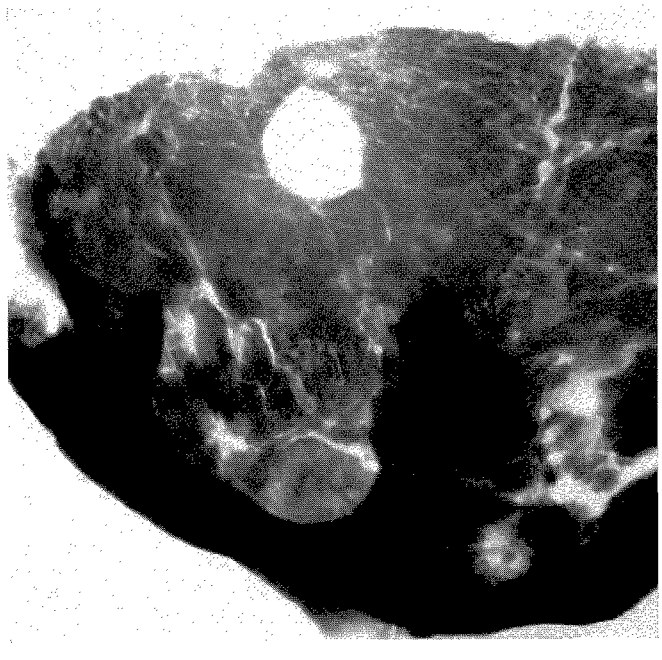
3 Ferwerd. X-ray photograph



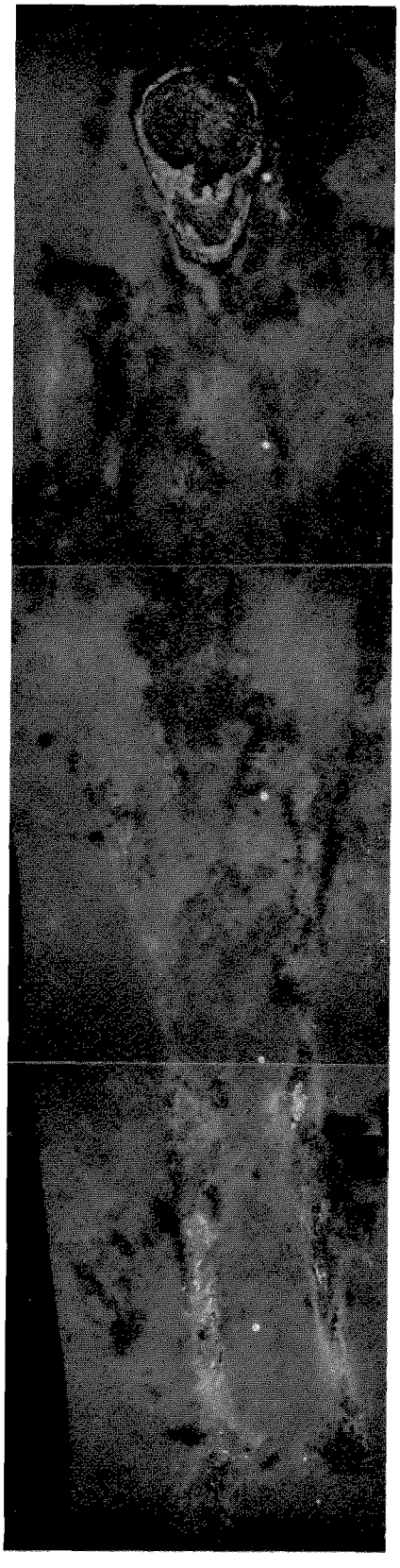
1 Cuijk. Outerside



2 Cuijk. Inside

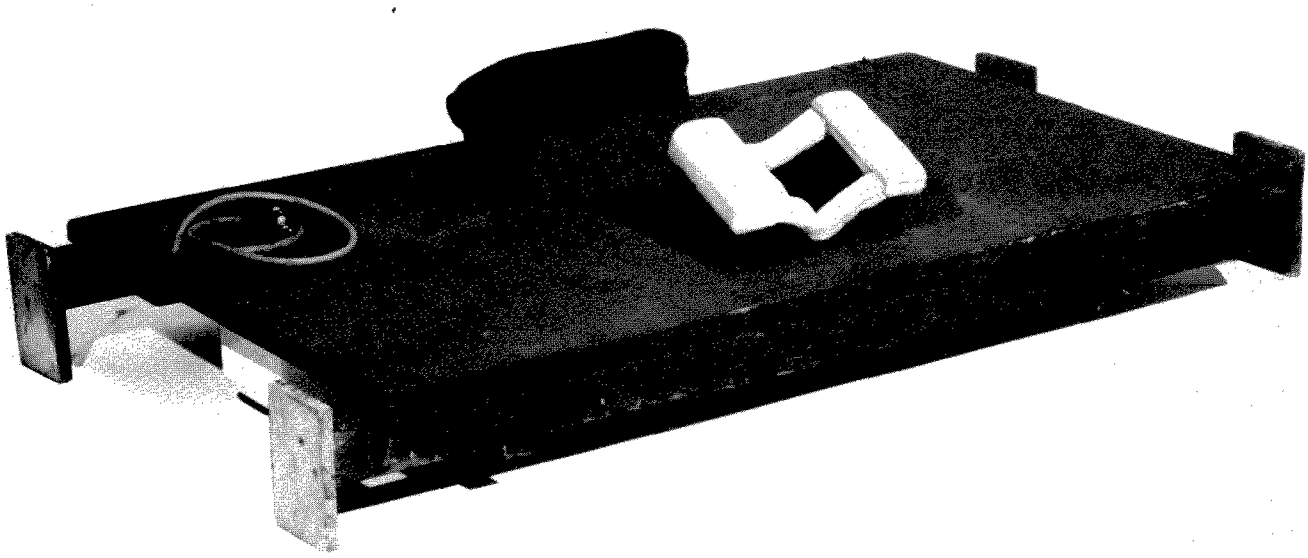


3 Cuijk. X-ray photograph



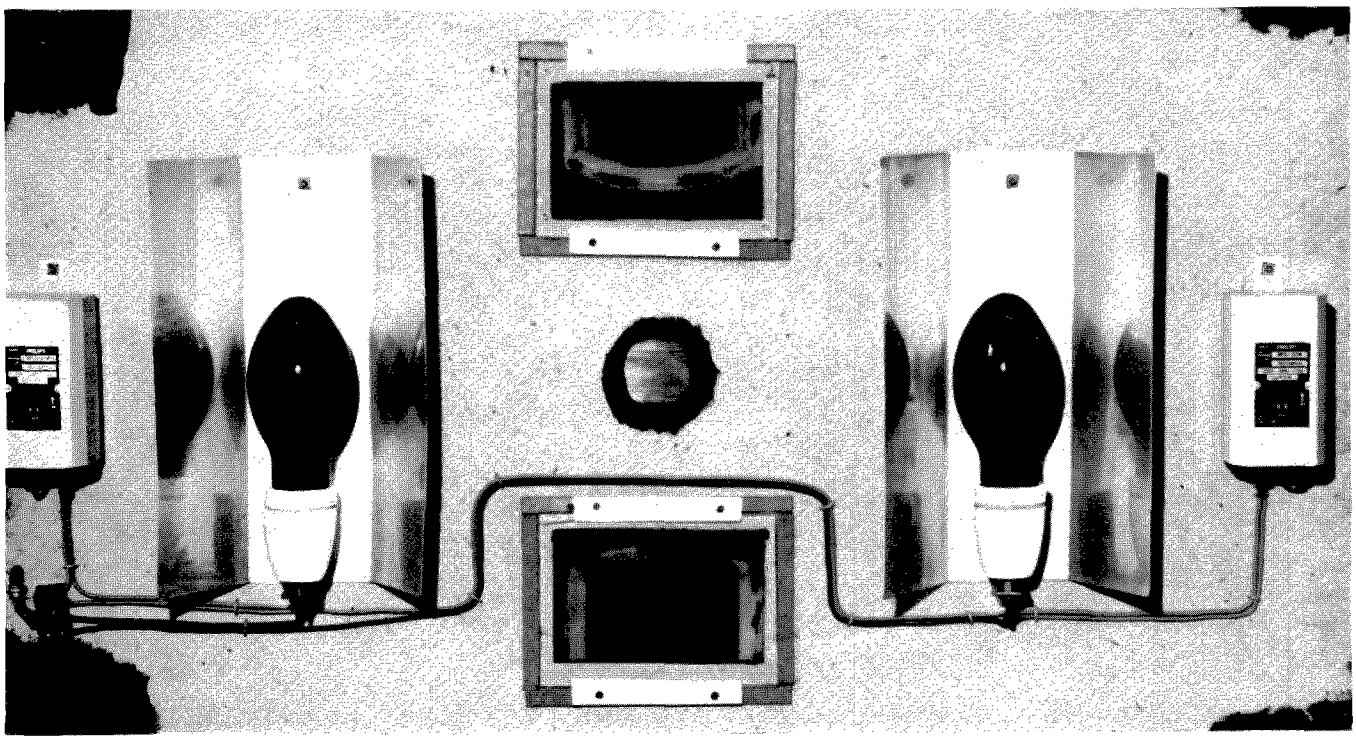
Ultra-violet fluorescence photography of a silhouette; excavation Cuijk. Presumably. Bronze Age

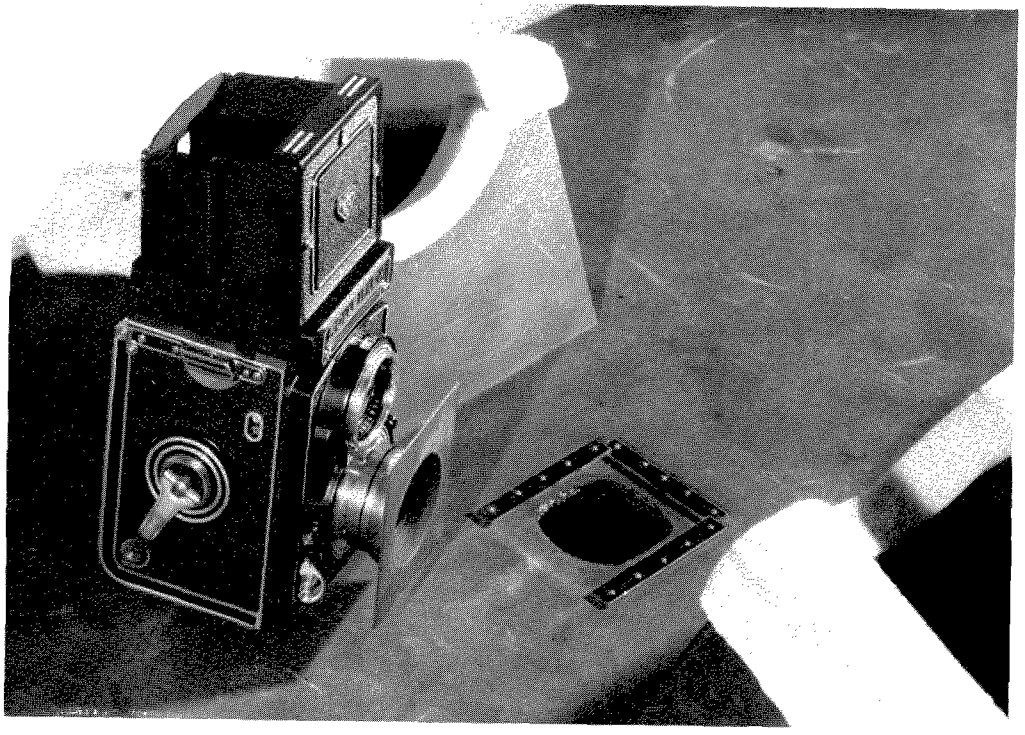
The frame of the U.V. photography apparatus



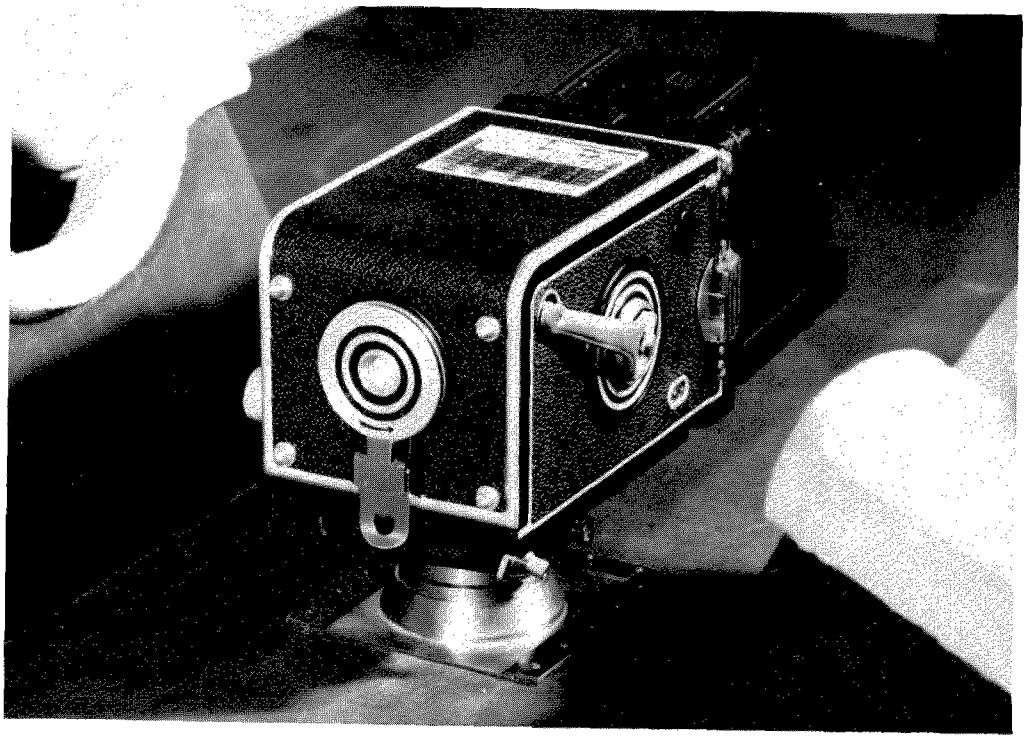
The frame ready for transport

The underside of the top of the apparatus





The connection between camera and the tent. In the connection piece the U.V. filter is mounted.



The apparatus in the field. Note the soil silhouette in the right-under corner of the photography.

Velp (Gelderland). Pot Beaker