

Migration Period Settlements and 'Anglo-Saxon' Pottery from Flanders

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THIS PAPER presents a brief overview of recent excavations of Migration Period settlements in Flanders, a region from which few settlements of this period have previously been investigated. A discussion of the pottery from these sites follows, with special reference to chaff-tempered pottery which appears to be identical to that found in Anglo-Saxon England both in technique and petrology. The paper concludes with a review of the evidence for the chronology and distribution of the technique and a consideration of the implications of the Flanders finds for the origins and distribution of chaff-tempered pottery.

Recent excavations of Migration Period settlements in Flanders, where few settlements of this period have been investigated archaeologically, reveal that this region is of considerable importance for the study of early Anglo-Saxon pottery. These are the first continental settlements of this period to yield substantial quantities of well-dated chaff-tempered pottery which is essentially identical to that produced in S. and E. England during the 5th–8th centuries; the implications for the origins of this fabric, generally considered to be diagnostically 'Anglo-Saxon', are therefore of particular interest. This paper briefly reviews these recent excavations and the pottery from them, and in the light of these discoveries reassesses the current debate concerning the appearance and distribution of chaff-tempered pottery in Anglo-Saxon England.

In Belgium, pottery of the 5th–8th centuries has long been known only from burial finds, mostly from old excavations. This has led to an incomplete and biased picture characterized by an over-representation of so-called biconical vessels — luxury wares with decorated shoulders — and other wheel-thrown wares; conversely, ordinary handmade earthenwares were almost totally absent.

Investigation in the early 1970s of a settlement at Kerkhove (West-Flanders, Belgium, Fig. 1a) revealed for the first time in Belgium, Merovingian building remains found together with large quantities of domestic pottery.¹ The new information provided by the Kerkhove excavations led to a reappraisal of old assemblages of Merovingian pottery from the Scheldt valley.² More recently, several new sites have been discovered near Oudenburg in the Flemish coastal area. They provide important supplementary information for the study of ceramics from Merovingian

settlement sites. Of particular interest is the fact that the handmade pottery from these new settlements is different from that found in the Scheldt valley, while at the same time displaying remarkable similarities to the early Anglo-Saxon pottery found in England.

MEROVINGIAN SETTLEMENTS IN THE OUDENBURG AREA

A research project was set up in 1986 to study Roman and Merovingian settlements in the area between Brugge, Oudenburg and Aartrijke (Fig. 1a).³ The area is located in the sandy region bordering the Flemish coastal plain (Fig. 1b) and is more or less delineated by three (hypothetical) Roman roads: the Zandstraat, linking Oudenburg, Brugge and Aardenburg; the Steenstraat, the *diverticulum* between Brugge and Poperinge which passed through Aartrijke; and the Zeeweg linking Oudenburg with Aartrijke and the south.⁴ In late Roman times this region was dominated by an imposing stone fortress which was probably part of the *Litus Saxonicum*. This *castellum* — on the site of the present-day village of Oudenburg (Fig. 1b, 4) — was located on a sandy ridge, practically on what was then the shoreline itself; it was abandoned early in the 5th century, around the time when Honorius withdrew the army.⁵

In the 5th and 6th centuries the sandy Oudenburg area bordered on marine marshlands and was probably connected with the open sea by a tidal estuary; to the S. extended a large forest later called *Herualdolugo*. The name is mentioned in association with the earliest place name in the area: in A.D. 745, on the 24th of July, a certain Felix gave all his properties in *Hrochasem* (Roksem) — a village c. 2 km S. of Oudenburg — to the abbey of Saint-Bertin at Saint-Omer (départ. Nord, France). These properties included not only arable land, pastures and woods as well as serfs and cattle, but also houses and other buildings, *mansi* and a *cella*. Remains of what was probably this *cella* were found during the excavations on the site of the former parish church of Roksem, c. 2 km SE. of Oudenburg, at the crossing of the Zeeweg and the Oude Bruggeweg (Fig. 1b, 5); the latter is the old road which in medieval times led from Gistel to Brugge, over Westkerke, Roksem, Zerkegem and Snellegem.⁶

THE SETTLEMENTS

Fieldwalking and systematic watching briefs in the area brought to light several new Merovingian settlement sites. Taking into account those found previously, a total of ten such sites are now known to the east of Oudenburg. In five cases the information available regarding these settlements is limited to surface finds. East of the old parish church of Roksem, however, near the Oude Bruggeweg, a cluster of four settlements located a few hundred metres from one another have been investigated further.

Zerkegem I

The first site lies within the territory of the former village of Zerkegem, near its border with Roksem (Fig. 1b, 9). In the late 1920s or early 1930s sand extraction

activities yielded a remarkable, nearly complete vessel with rather unusual decoration (Fig. 2).⁷ Responding to the threat of new sand extractions, the *Vereniging voor het Oudheidkundige Bodemonderzoek in West-Vlaanderen* carried out rescue excavations in 1985–86.⁸ These revealed that large parts of the settlement had already been destroyed by earlier sand extraction activities. It also appeared that occupation began as early as the late 4th or 5th century. A small number of finds — among them pottery sherds and a bronze cruciform brooch — point to this period. Most of the



FIG. 1

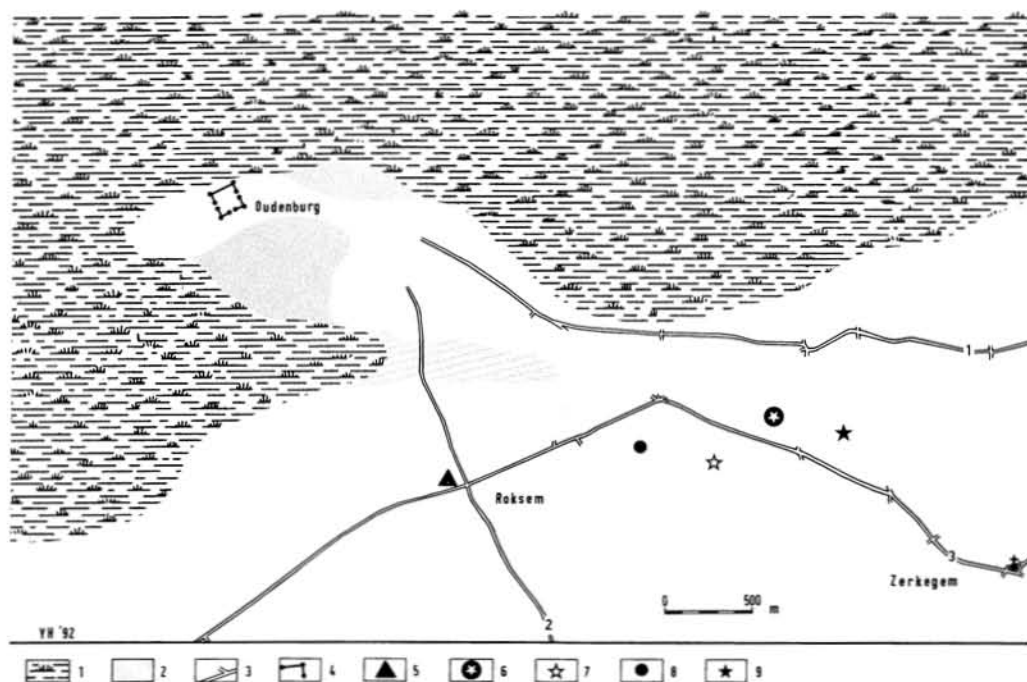
Location maps showing Zerkegem and Roksem

a. Location of the study area

A: Aatrijke B: Brugge K: Kerkhove S: Scheldt valley

b. Detailed map of study area

1. Tidal area or marsh in the late Roman and early medieval period.
2. Non-tidal alluvium
3. Road system: 1=Zandstraat; 2=Zeeweg; 3=Oude Bruggeweg
4. Late Roman *castellum* of Oudenburg
5. Old parish church of Roksem
6. Roksem I
7. Roksem II
8. Roksem III
9. Zerkegem I



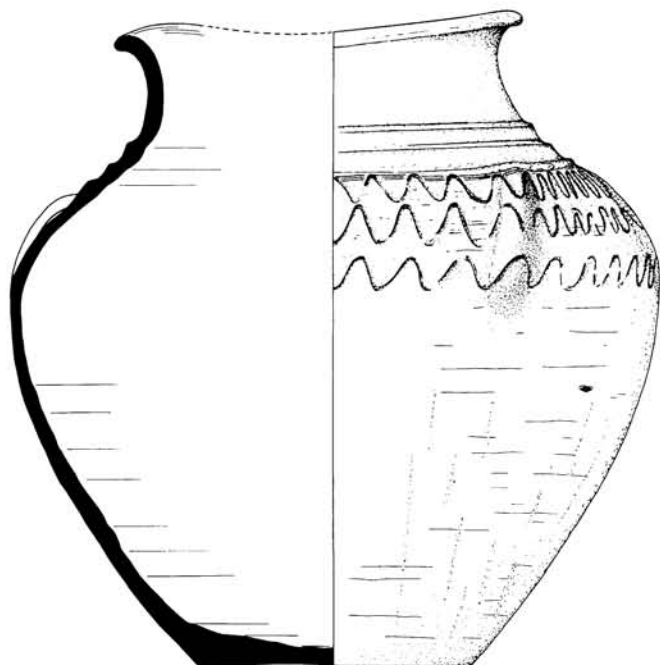


FIG. 2
Wheelthrown jar from Zerkegem I
(Scale 1:3)

features, such as several timber-lined wells, a few rubbish pits, a six-post granary and the foundation trench of a rectangular building did, however, seem to be somewhat later in date and could be attributed to one of two Merovingian occupation horizons: one from the end of the 5th to the end of the 6th century, and the other dating broadly to the 7th and 8th centuries.

Roksem I

This site, which has so far yielded the largest amount of information, is located *c.* 400 m W. of Zerkegem I (Fig. 1b, 6) along the banks of the Roksempuut, an artificial pond resulting from sand extraction in the 1970s. An area of *c.* 2500 m² was investigated in 1988–89. Only part of the Merovingian settlement was uncovered in the course of these excavations.⁹ Although they are not all equally well documented, several chronological phases have been identified.

Phase I: 4th/5th centuries. As at Zerkegem I, it seems probable that occupation started as early as the late Roman period. Several pits contained pottery characteristic of this period such as roulette-decorated terra sigillata from the Argonne region, and Mayen Coarse Ware. These pits were found only in the zone along the former sandpit. They probably belonged to a late 4th- or early 5th-century settlement phase, the remainder of which was presumably destroyed.

Phase 2: 6th century. The zone along the Roksempuut is also characterized by the presence of numerous postholes; some of these can be linked to the remains of a

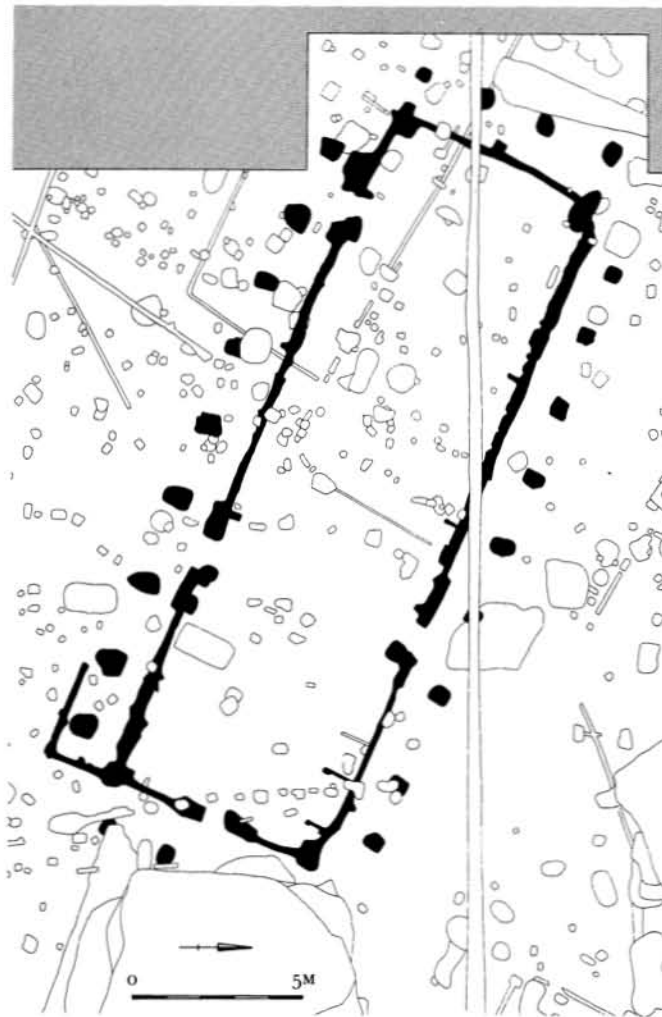


FIG. 3
Building from Roksem I

rectangular building and several smaller adjacent structures. The finds from these features cannot be ascribed to a detailed chronological sequence, but most may nevertheless be broadly dated to the 6th century. A few pits, one of which contained a copper alloy pin with a bird-head (for which no exact parallels are known to the writers) may also belong to this period (Pl. II, A).

Phase 3: 7th/8th centuries. Far more numerous are the features belonging to the 7th and/or first half of the 8th century. The site yielded traces of various structures, representing at least two distinct sub-phases. The first of these is represented by the remains of several timber buildings and fences. The main building was a rectangular

construction of 6×12 m; it had one entrance to the NE. and a gabled roof with supporting external posts. The remains of a fenced enclosure and of several small adjoining structures were found at the back of the main building. These small, mostly rectangular or square constructions with four posts were probably granaries. The fenced enclosure seems to have been enlarged several times. Another timber building, also with an entrance to the NE., stood to the E. of the first building and has tentatively been identified as a small barn or byre. Traces of the first sub-phase were cut by the remains of an imposing building (Fig. 3). There can be no doubt that this structure is a combination of a byre (in the E. end) with dwelling quarters (*Wohnstallhaus*) of 6×22 m. The cattle could enter the E. part of the building by way of a gate in the gable wall. The rest of the building consisted of two large parts. Despite the absence of a hearth, the central part may be regarded as the dwelling area itself, with two opposing entrances. At the W. end, a small adjoining room with separate entrance was probably used for storage. The house presumably was a single-aisled building with a hipped roof and heavy supporting posts outside the main walls.

Numerous pits seem to be roughly contemporary with the afore-mentioned structures. Several larger pits (Pl. I) probably functioned initially for storage and were subsequently reused as rubbish pits. Some pits yielded large quantities of animal bones, while a rectangular pit contained the complete remains of a cow. The finds from the remaining pits are rather sparse and highly fragmentary: pottery sherds, fragments of glass beakers and, rarely, metal objects such as a small lead cross (Pl. II, B). A large pit which cut through the foundation trenches of the first rectangular building yielded small fragments of the original timber frame of a square well.

A major concentration of pits was found N. of the first rectangular building. These pits were cut by a series of shallow ditches, probably for drainage, forming a primitive plot system. One of these ditches yielded a type BII *sceatta* (Pl. II, C, D), probably dating to c. A.D. 700–710.¹⁰ A few ditches, however, had a totally different orientation and were probably somewhat later.

Phase 4 and the end of occupation. The Carolingian features were concentrated in the SE. part of the site where remains of several wells and traces of a small, boat-shaped building were found. Post-Carolingian features were far less numerous. A timber well and two or three small pits may have belonged to the 10th century, while a large water-trough for cattle probably filled up in the 12th century, suggesting that most of the area was by then used for pasture. From this time onward, the site seems to have been abandoned in favour of another area, possibly along the Oude Bruggeweg.

Roksem II

In 1989, building works for a car park along the Brugse Baan led to the discovery of a third site, c. 400 m SW. of Roksem I (Fig. 1b, 7). Rescue excavations revealed several structures, mostly Merovingian; three large pits (probably dismantled timber wells) as well as smaller pits and the foundation trenches of at least

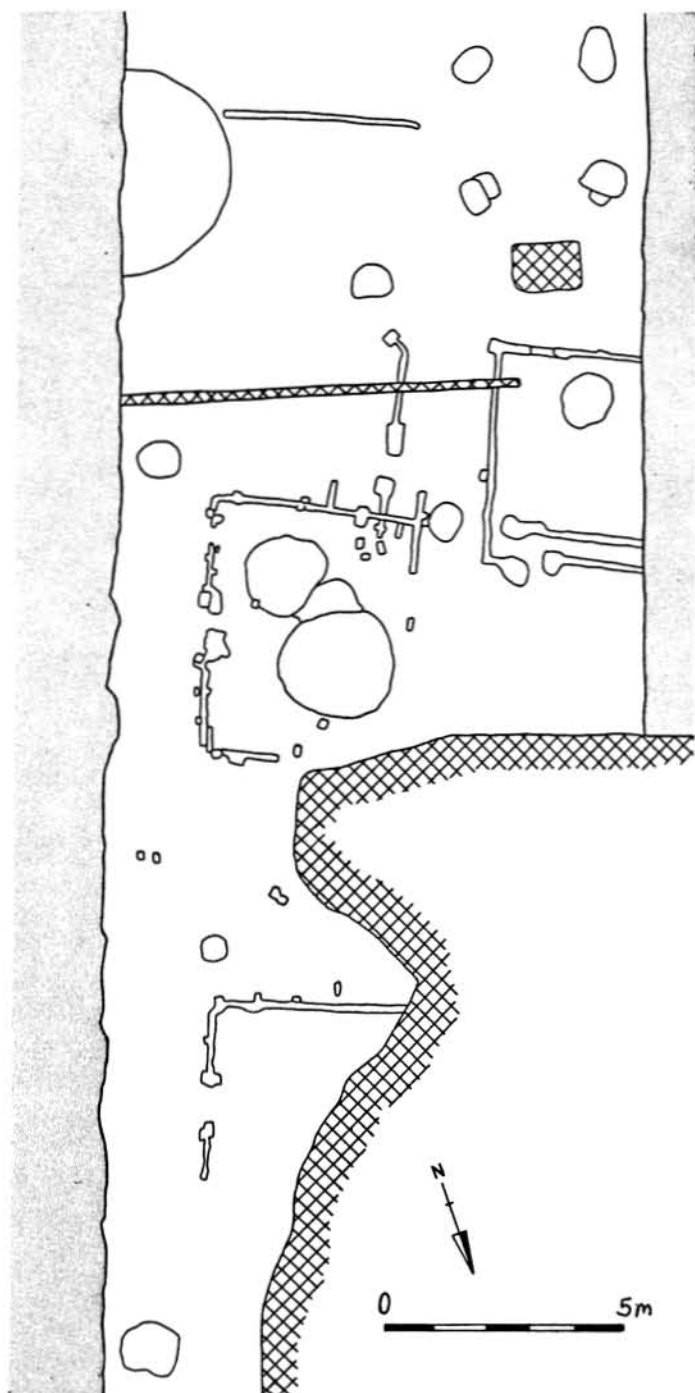


FIG. 4
Roksem II: site plan

three buildings, with a generally E.-W. axis (Fig. 4). Due to the limited area excavated, none of the building plans is complete. The pottery suggests occupation of the site during the 7th and 8th centuries.

Roksem III

This site came to light in the late 1950s, following sand extraction along the Millebeek, c. 400 m W. of Roksem II and c. 1 km E. of the former parish church of Roksem (Fig. 1b, 8). The site would have been totally destroyed and all archaeological information lost had not a local amateur collected several Merovingian pottery sherds, a fragment of a glass beaker and a small bronze strap-end. According to him, these objects came from Frankish graves, but the presence of numerous fragments of handmade chaff-tempered pottery suggests that these finds could equally derive from a settlement.¹¹

CHAFF-TEMPERED POTTERY FROM FLANDERS

The study of the pottery from these sites has formed an important contribution to our knowledge of early medieval ceramics from Flanders. The lack of suitable comparative material and other problems typical of settlement ceramics (e.g. the fragmentary nature of the finds and particularly the problem of residuality in settlement contexts) means that many questions remain unanswered. An additional difficulty is the rather poor preservation of the less hard-fired wares, and particularly of the handmade earthenwares.

The Merovingian period pottery from Flanders can be divided into two main categories: handmade wares, presumed to be mainly of local origin, and imported wheelthrown wares. Amongst the latter are imports from the Eifel region and a major but less well-defined group which includes biconical vessels. In the Flemish coastal area, the so-called Eifel wares already appear in the 3rd century but from the late Roman period onwards the pottery from this region consists exclusively of products from the kilns of the Speicher-Mayen region, such as the lid-seated jars or cooking pots.¹² The Merovingian settlements of Roksem/Zerkegem have yielded many fragments of Eifel ware, mainly from *Wolbwandtöpfe* and, to a lesser extent, from *Kleeblattkrüge*. From the Carolingian period onwards, the wares from the Eifel region are replaced by imports from the Middle Rhine, more precisely from the Badorf area, represented amongst others by the Relief-band amphorae.

Another group of wheelthrown pottery doubtless also consists of imported wares, but unlike the Eifel products, their provenance remains a matter of debate.¹³ Usually this pottery is fired hard in a reducing atmosphere and is often burnished. The vessels are mainly biconical beakers and bowls but a few bottles and spouted pitchers are also represented. In some cases, the shoulder bears stamped or rouletted decoration and occasional wavy lines or simple external rilling. A combination of different decorative techniques is also sometimes found, as for example on an early find from Zerkegem whose shoulder is decorated with three horizontal rillings, three incised wavy lines and six vertical oval bosses. (Fig. 2).

More than half of the pottery from the sites discussed above consists of handmade wares. This important category can be divided according to fabric into

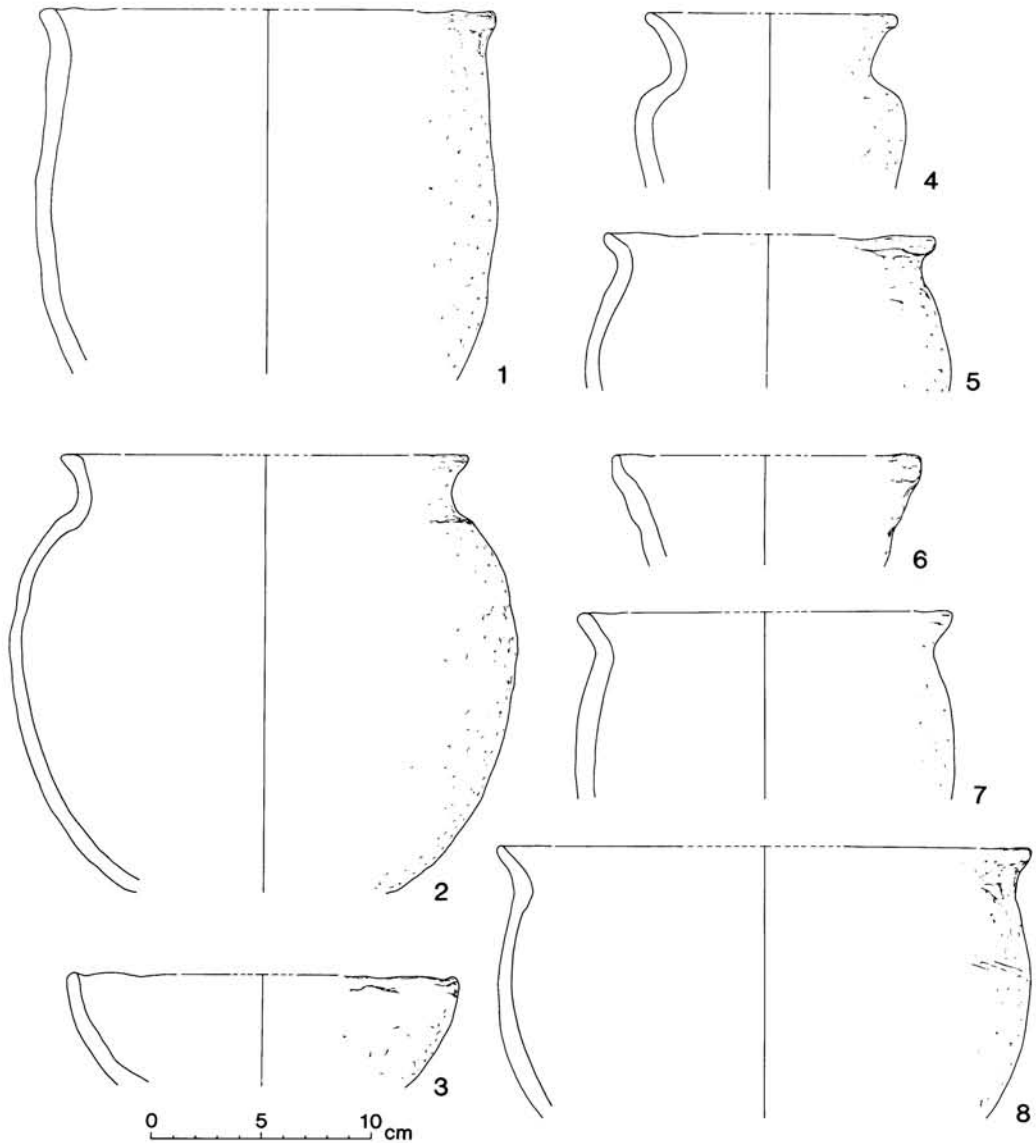


FIG. 5

Handmade chaff-tempered pottery from Roksem I-III (Scale 1:3)

several sub-groups, many of which contained only a few examples, and a much larger one characterized by the presence of vegetable matter, i.e. 'chaff temper' as the main tempering agent. Particularly in the early phases (late 5th and 6th centuries) a diversity of fabrics is apparent. Both at Roksem I and Zerkegem I, the oldest examples of this chaff-tempered ware go back at least to the 5th century. From the Carolingian period onwards, vegetable temper is replaced by the use of shell and

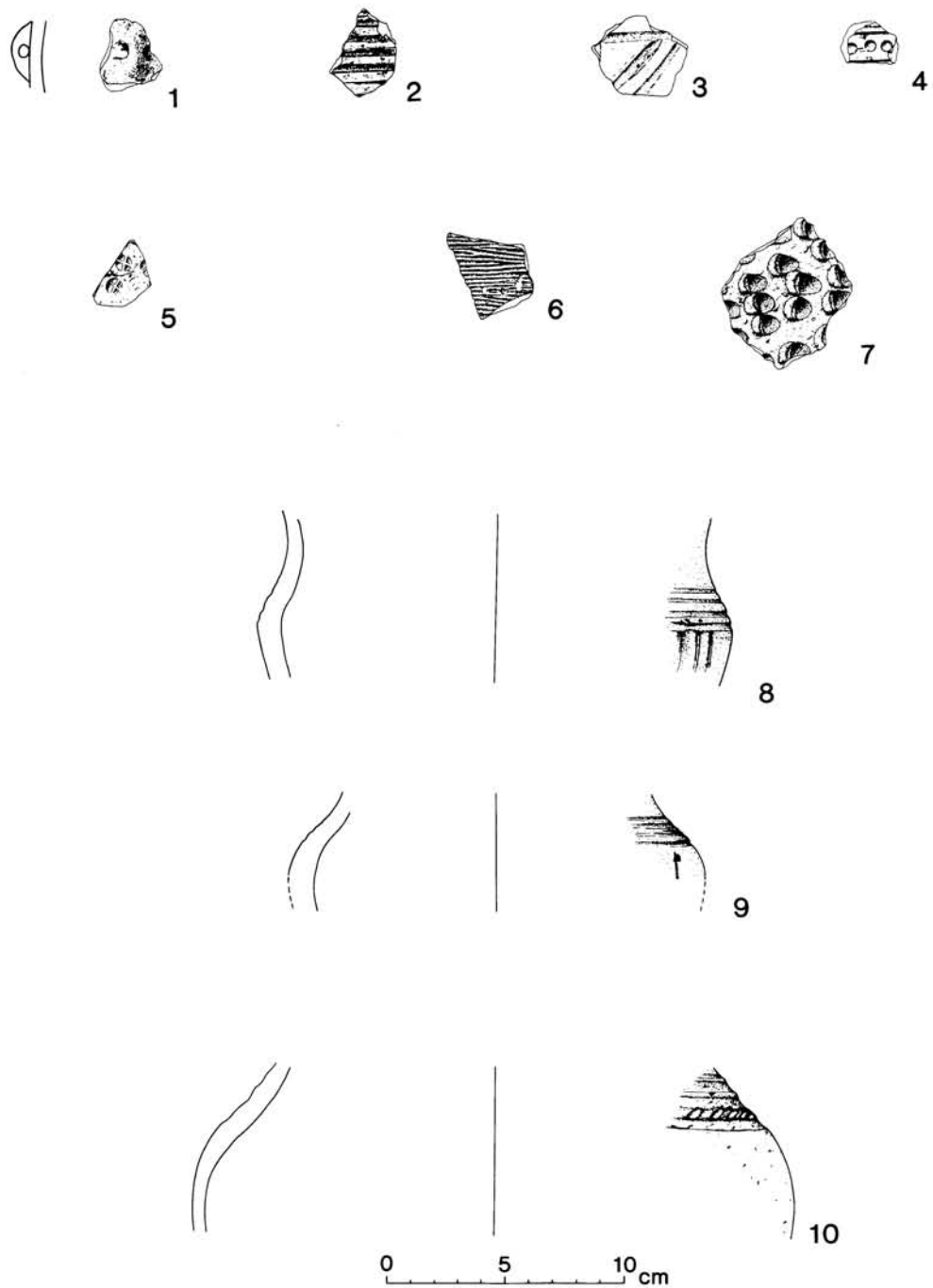


FIG. 6

Handmade decorated pottery from Roksem I (Scale 1:3)

quartz sand as tempering agents. From then on, quartz sand becomes the most common temper in Flanders.

The appearance of chaff-tempered ware represents a break with the local potters' traditions of the Roman period (1st to 3rd centuries) when the main temper added to common earthenwares along the Flemish coast was grog, that is, ground up pottery. Nevertheless, the use of chaff or dung as a tempering agent was known before, as it was used to make pottery vessels for salt-making — briquetage — since the Iron Age.¹⁴ In general, there is a difference between the early medieval handmade pottery of coastal Flanders which is predominantly chaff-tempered, and that found in the Scheldt valley, where chaff-tempered pottery is the exception. The handmade pottery from the Merovingian settlement of Kerkhove, for example, is characterized by the use of small red inclusions as temper, probably either ground Roman tile, or fired clay pellets.¹⁵

Amongst the handmade domestic pottery from the Flemish coastal zone, straight-sided bowls with slightly inflected rims, jars or bowls with everted rims and small hemispherical bowls are best represented (Fig. 5). An exceptional type, which is so far found only at Roksem, is a vessel with applied and pierced lugs (Fig. 6, 1). Most of the vessels are undecorated, although both at Zerkegem I and Roksem I features from the earliest occupation phases (5th and 6th centuries) yielded fragments of various fabrics with stamped decoration,¹⁶ horizontal or vertical grooves as well as chevron-and-dot decoration (Fig. 6, 2–5, 8–10). At Roksem I even combing and so-called rustication occurs, the former only on chaff-tempered pottery, the latter on sherds in a hard-fired coarse sandy fabric (Fig. 6, 6–7).

PETROLOGICAL ANALYSIS

Five sherds of chaff-tempered pottery from Roksem were submitted to the City of Lincoln Archaeology Unit where thin-sections were made and compared with four samples of chaff-tempered pottery from Mucking. These samples were prepared using the standard procedures with the addition of staining using Dickson's method to distinguish any calcareous inclusions present. They have been added to the unit's reference collection with reference codes L419–423 (Roksem) and L608–611 (Mucking). In every section elongated voids up to 4 mm long and surrounded by darkened haloes or partially filled with carbonized plant matter represented the chaff/dung temper. These are the diagnostic features of chaff-tempering in thin-section and indicate a shared technology rather than a shared source. However, there was also considerable uniformity to be found in the non-organic minerals seen. Sparse to moderate angular quartz grains were present in each section, ranging up to 0.5 mm across. Sparse to moderate rounded, monocrystalline quartz grains were present in all but two sections. Sparse, brownstained angular flint fragments were present in all but two of the samples. Rounded pellets of reddish coloured clay were present in all but two sections. The optically anisotropic clay matrices were also very similar, all containing sparse to moderate quartz silt and all but two containing sparse to moderate muscovite mica. Whilst none of these petrological characteristics is sufficiently distinctive to indicate a shared source for the two sets of samples it is clear

that they bear more similarity to each other than to samples of other early medieval chaff-tempered wares examined from Frocester Court in Gloucestershire or Hatton Rock in Warwickshire. This indicates that the similarity is not simply a result of a shared method of tempering and clay preparation, although it could be accounted for by the similar geological histories of the Lower Thames Valley and coastal Flanders.

'ANGLO-SAXON' POTTERY IN THE LOW COUNTRIES AND N. FRANCE

The first pottery from the region of Merovingian Gaul to be classed as distinctively 'Anglo-Saxon' in form and decoration were five urns from the cemetery of Anderlecht, near Brussels, published in 1907 and 1908 by G. Cumont.¹⁷ By 1948, these finds and others from the Low Countries were sufficiently well-established to lead J. N. L. Myres, the pioneer of early Anglo-Saxon pottery studies, to refer to 'characteristic Anglo-Frisian pots'.¹⁸ Indeed, the close decorative similarities between certain East Anglian pots and the small but increasing number of handmade 'céramique de type anglo-saxonne' found in NW. France (for example a group of *Buckelurnen*, *Schalurnen* and stamp-decorated vessels from the Ponthieu littoral), has recently prompted the suggestion that Anglo-Saxon potters were at work in this region at the same time as the workshops which were producing wheel-thrown wares in the 5th and 6th centuries.¹⁹ Explanations for the appearance of this pottery in Belgium and N. France remain tentative, but it is now well-established that the handmade pottery traditions in Belgium and in England during the 5th and 6th centuries display close parallel developments in form, decoration and, as demonstrated above, in fabric.

As discussed in the preceding section, the handmade pottery of the 5th and 7th centuries in the coastal region of Flanders is predominantly chaff-tempered in contrast to the primarily sandy or grog-tempered fabrics found further inland.²⁰ A growing interest in petrological analysis of Migration Period pottery from this region will undoubtedly yield further details regarding the provenance of these fabrics and their distribution.²¹ Already, in addition to the sites in coastal Flanders (Bruges, Oudenburg, Zerkegem, Roksem, etc.), a few inland sites have also yielded chaff-tempered pottery, most notably Meer (Antwerp, BL) and Emelgem (W. Flanders, BL).²² In terms of form and decoration, this pottery is closely related to material from sites on the lower Rhine such as Rijnsburg and Monster (S. Holland, NL), Rhenen (Utrecht, NL) and Wageningen (Gelderland, NL) and along the French coast, as well as with N. Germany and England.²³ Indeed, some archaeologists interpret this material as representing migrations into the northern French coastal zone and Scheldt valley in the second half of the 5th century not only by 'Franks' but by other Germanic groups, including 'Saxons' from the N. Netherlands and the N. German coast.²⁴

CHAFF-TEMPERED POTTERY IN ENGLAND: A REVIEW

In order to appreciate the significance of the presence of chaff-tempered pottery in coastal Flanders, it is necessary to review the debate concerning its date,

distribution and cultural significance in Anglo-Saxon England. Initial hypotheses suggested that the production of chaff-tempered pottery was essentially a British tradition which re-emerged in the early Anglo-Saxon period, an argument supported, for example, by the existence of 'pre-Belgic' chaff-tempered pottery and briquetage.²⁵ There is, however, no demonstrably Late Roman chaff-tempered pottery, although handmade grog-tempered wares were manufactured in the 4th century and a chaff-tempered 'dog-dish' bowl from Silchester may date to the Late Roman period, but could equally be Late Saxon.²⁶ That the use of chaff-tempered pottery in the Anglo-Saxon period represents the re-emergence of a pre-Roman phenomenon which survived as a native tradition cannot be wholly discarded but it is now generally assumed that after its apparent disappearance during the early Roman period in Britain, chaff-tempered pottery was reintroduced into this country by Germanic settlers. Indeed, its presence is now often taken as *prima facie* evidence for 'Germanic' settlement.²⁷ This view has predominated for the past fifteen years, despite the fact that until the recent excavations in Flanders, very little chaff-tempered pottery has actually been found in Migration Period settlements on the continent. A third view of the significance of chaff-tempered pottery has been to take a wider perspective and to suggest that the addition of dung or chaff to potting clay is a relatively simple idea, and one which could be re-invented independently from time to time and area to area.²⁸ The connection of potting and the farmyard might suggest that chaff-tempered pottery would have been produced in an agricultural context, unlike the woodland, marginal context of much medieval peasant pottery production. It is nevertheless unlikely that peasant farmers on either side of the North Sea adopted the same technique in complete independence.

Archaeological literature has adopted a number of terms to describe chaff-tempered pottery. Initially, it was believed that the organic material added to the clay was chopped grass, hence the use of the term 'Grass-tempering'. Palaeobotanical studies of the inclusions have shown that in reality the material includes numerous grain and chaff impressions, normally derived from domestic cereals. For this reason, the term 'chaff-tempering' has become almost universally adopted. Following the study of bell mould fragments from Winchester by M. Monk in the late 1970s it was realized that these organic inclusions probably derived from dung, probably that of donkeys or horses to judge by the size distribution of stem fragments and range of plant species identified. Despite this, the term 'dung-tempered pottery' has not been widely adopted although this interpretation of the technology, backed up by extensive ethnographic data, is now widely accepted.

Why chaff-tempered pottery was first adopted and then discarded as a potting technique has been examined through experimental archaeology. As D. Brown's experiments in the 1970s showed, chaff tempering offers increased resistance to thermal shock, and improves the workability and plasticity of some clays. He argued that the decline in the popularity of chaff-tempered pottery in the 8th century was brought about by the development of more sophisticated firing techniques which reduced the risk of thermal shock.²⁹ Dung-tempering was certainly chosen for its technological properties by medieval artisans who consistently used it when making moulds for bells, cauldrons and other cast copper-alloy vessels, probably because the

numerous voids helped to insulate the metal contents and thus slow down the cooling process. However, the addition of chaff temper also tends to produce a rather porous and brittle vessel once fired and the technological advantages are perhaps insufficient to explain the great rise in the popularity of chaff-tempered pottery in the 6th and 7th centuries. Social factors must have played an equally important role.³⁰

It is difficult to establish from the archaeological literature whether chaff-tempered pottery is present in the earliest Anglo-Saxon contexts, although clearly it became more common with time. A substantial increase in the popularity of chaff-tempered pottery in the 6th and 7th centuries is apparent at a number of settlements in S. and E. England, most notably at Mucking, Essex.³¹ In his forthcoming report on the Marlow I excavations in Canterbury, N. MacPherson-Grant also notes a dramatic increase in the quantity of Fabric EMS 4 (a 'purely organic-tempered' fabric) between c. A.D. 650–700, when it accounts for nearly 60% of the assemblage, while proportions of chaff-tempered pottery in earlier contexts from 16 Watling Street, Canterbury range from only 5%–12%.³² F. Berisford's study of the early Anglo-Saxon pottery from settlements in the Upper Thames basin demonstrates how in that region too, the use of chaff tempering, 'although present from early on, seems to have become increasingly popular by the 7th century, by which time it usually accounts for the highest percentage of pottery'.³³ Brown subsequently identified a similar chronological trend at the settlement of Walton, near Aylesbury, Bucks.³⁴ An increase in the popularity of chaff-tempered pottery may also be detected further north, in the pottery assemblage from the nine *Grubenhäuser* excavated at Puddlehill, Beds.³⁵

Chaff-tempering has therefore been found as a relatively small proportion of 5th to mid 6th-century pottery in archaeological assemblages over a wide area of S. and E. England; quartz sand and other tempers were in the main used instead. The main period of use of chaff-tempered pottery was in the later 6th and 7th centuries, when over large stretches of S. England chaff-tempering became almost the only tempering technique used. In Wiltshire, at Market Lavington, the start of this ubiquitous phase can be dated to the 6th century or earlier, and a similar early date has been put forward for the start of the occupation sequence at Old Town, Swindon, where chaff-tempered pottery is likewise the only type found.³⁶ Elsewhere, as in Somerset or Gloucestershire, there is virtually no independent evidence for the date of assemblages containing solely chaff-tempered pottery although the absence of decoration and the generally bag-shaped profile of vessels suggests that these assemblages are mainly of 7th-century or later date.³⁷ Brown noted nearly 20 years ago that the Thames valley forms a rough dividing line, to the N. of which chaff-tempered pottery is relatively scarce, even at mid Saxon sites such as Maxey, Northants.³⁸ The average quantities of chaff-tempered pottery from Mucking, Heybridge and Springfield Lyons, all in Essex, are c. 49%, 30% and 50% respectively. In contrast, the average proportion of chaff-tempered pottery from fifteen East Anglian settlements spanning the early Anglo-Saxon period is only 16%. This distinction is also reflected in the pottery from cemeteries: some 56% of the Mucking urns are chaff-tempered, compared with only 7% at Spong Hill, Norfolk.³⁹ These

differing proportions cannot be explained solely by differing date ranges for these sites, as even the earliest Thames valley assemblages tend, on average, to contain a higher percentage of chaff-tempered pottery than do East Anglian assemblages. Cultural factors must be considered in any explanation of the difference between the ceramic technologies of the 'Anglian' regions N. of the Thames and the 'Saxon' regions along the Thames Valley and to the south.

The date when chaff-tempered pottery went out of use in England is less clear. In Hampshire, it was still in use when the settlement of *Hamwic* was laid out in the very late 7th or early 8th century but it has been suggested that at Portchester and Hamwic the production of chaff-tempered pottery went into a sharp decline in the early 8th century and had all but disappeared by A.D. 750.⁴⁰ In Canterbury it is thought that shell-tempered wares replaced chaff-tempering in the 8th century and a recently-excavated assemblage from Minster-in-Sheppey associated with a *sceatta* of mid 8th-century date contained no chaff-tempered sherds.⁴¹ In East Anglia it is thought that sand-tempered Ipswich-type wares totally replaced earlier handmade coarsewares during the later 7th and 8th centuries and there is a similar wholesale adoption of shell-tempered wares in Lincolnshire and the SE. Midlands during the 8th century.⁴² However, preliminary study of pottery from the high status settlement of Flixborough has identified fragments of a chaff-tempered vessel in stratified association with 8th-century shell-tempered wares and on a site with virtually no evidence for occupation before the late 7th century. Petrological examination of this vessel shows it to contain fragments of acid igneous rock thought to originate in the Charnwood Forest region of NW. Leicestershire, thus demonstrating that chaff-tempering must have continued in parts of midland and western England unaffected by developments in the south and east. In Somerset, Gloucestershire, Wiltshire and perhaps also in Worcestershire, Warwickshire and Oxfordshire chaff-tempering may have continued in use up to the late 9th or early 10th century, at which point new pottery types can be identified.⁴³

CONCLUSION

The evidence from England thus indicates that along and to the south of the Thames valley, chaff-tempered pottery appears already in the 5th century, but in small quantities, on average roughly 5–15%. Its popularity reaches a peak in the 7th century, when, for example, it accounts for 100% of the pottery in a number of the *Grubenhäuser* at Mucking.⁴⁴ North of the Thames valley, however, the proportion of chaff-tempered pottery rarely exceeds 15% throughout the period of settlement although it is present throughout the area of Germanic settlement, at least as far N. as the Vale of Pickering. By the middle of the 8th century it appears that chaff-tempering had largely ceased to be used in S. and E. England but there is a strong suspicion that it continued to be used elsewhere for a further 100–150 years.

On the Continent, chaff-tempered pottery has hitherto been found only rarely and in restricted areas, although the paucity of published details regarding pottery fabrics makes this difficult to estimate. An examination of pottery assemblages from some 35 Migration Period sites from Denmark, Germany and the Netherlands by one of the authors failed, however, to reveal a single sherd of chaff-tempered

pottery.⁴⁵ Although Brown refers to such material from Friesland,⁴⁶ only one Dutch site has been published which produced chaff-tempered pottery of the Migration/Merovingian period which is directly comparable to that from early Anglo-Saxon England: the site of Den Burg, on the island of Texel (North Holland).⁴⁷

Fifteen years ago, D. Kidd wrote:

Along the North Sea coast the position is clear: the use of organic [ie 'chaff'] tempering was a regional tradition beginning in the pre-Roman Iron age and continuing into the 9th century when wheel-turned pottery began widely to supersede the hand-made. The technique appears sporadically in the settlement mounds of NW Jutland in the pre-Roman Iron Age but only rarely in pottery thereafter. In the *terp/wurt* areas of the Dutch and German coastal marshes the technique is common. In the Roman Iron Age it is dominant especially in Frisia.⁴⁸

It has until now nevertheless been difficult to identify any published Migration Period assemblages from the northern North Sea littoral in which chaff-tempered pottery is present, let alone common. The recent recognition of substantial quantities of chaff-tempered pottery from the Low Countries is, therefore, of considerable significance in establishing the continental parallels for this major type of 'Anglo-Saxon' pottery. Whilst continental European origins for many aspects of Anglo-Saxon material culture are demonstrable, in this particular example it would seem most likely that the technique of chaff-tempering pottery was adopted first in S. or SE. England in the 5th century, spread further to the W. and N. during the later 6th and 7th centuries and survived there long after it had been replaced in its place of origin. The Flemish finds make most sense when seen as the eastern equivalent of this western diffusion although petrological analysis does not rule out another model, that this area of coastal Flanders was supplied with domestic pottery through cross-Channel contacts. In our present state of knowledge of the economy of NW. Europe in the Migration Period, however, this seems unlikely. Furthermore, a survey of coarseware pottery from 'Quentovic' (Visemarest), Dorestad and Ribe has failed to find any evidence for Anglo-Saxon pottery imports at these three flourishing 8th-century trading centres. Nevertheless, the parallel development on both sides of the North Sea strongly suggests that there were connections between these communities or that both were being acted upon by similar forces, to the extent that the pottery sequence of coastal Flanders had more in common with Anglo-Saxon England than with inland Flanders.

ACKNOWLEDGEMENTS

The authors wish to thank the Institute for the Archaeological Heritage of the Flemish Community, Asse (Zellik), Belgium for their support of this study, the British Museum, Department of Medieval and Later Antiquities, for providing the thin-sections of the pottery from Mucking, and Mrs B. Hillewaert and Dr F. Verhaeghe for the translation and correction of the Dutch text. Richard Kemp, of the City of Lincoln Archaeology Unit, prepared the thin-sections of the Belgian pottery.

NOTES

¹ M. Rogge, 'Een Merovingische nederzetting te Avelgem-Kerkhove', in A. Van Doorselaer (ed.), *De Merovingische beschaving in de Scheldevallei* (Westvlaamse Archaeologica Monografieën II, Kortrijk, 1981), 67-102.

² A. Van Doorselaer, 'La vallée de l'Escaut à l'époque mérovingienne', *Helinium*, 17 (1977), 209-30.

³ The research project began in October 1986 as a D.Phil. thesis at the University of Ghent, supported by a scholarship from the National Fund for Scientific Research. Since 1990, the Institute for Archaeological Heritage has taken over the project.

⁴ H. Thoen, *De Belgische Kustvlakte in de Romeinse Tijd*, Verhandelingen van de Koninklijke Academie voor Wetenschappen, Letteren en Schone Kunsten van België, Klasse der Letteren 40, No. 88 (Brussels, 1978), 74-77.

⁵ J. Mertens, 'Oudenburg and the northern sector of the continental *Litus Saxonicum*', in D. E. Johnston (ed.), *The Saxon Shore*, C.B.A. Research Report 18 (London 1977), 51-62.

⁶ N. Huyghebaert, 'Prieuré de Saint-Michel à Roksem', in *Monasticon Belge*, 3.1 (Liège, 1960), 183-85; J. Mertens, 'Fouilles dans l'église disparue de Roksem (Belgique)', in *Baukunst des Mittelalters in Europa. Hans Erich Kubach zum 75. Geburtstag* (Stuttgart, 1988), 107-22.

⁷ The vessel is mentioned in V. I. Evison, *A Corpus of wheel-thrown pottery in Anglo-Saxon graves* (London, 1979), 42 and J. Gyselincq, 'Quelques vases dits "anglo-saxons" de la province de Luxembourg', *Bull. de l'Inst. Archéologique Luxembourgeois* 50 (1974), 76.

⁸ S. De Cock, M. Rogge and A. van Doorselaer, 'Het archeologisch onderzoek te Zerkegem-Jabbeke', *Westvlaamse Archaeologica*, 3 (1987), 37-50.

⁹ Y. Hollevoet, 'Een vroeg-middeleeuwse nederzetting aan de Hoge Dijken te Roksem (gem. Oudenburg)', *Archeologie in Vlaanderen I* (1991), 181-96.

¹⁰ Identified by Dr D. M. Metcalf, Heberden Coin Room, Ashmolean Museum, Oxford.

¹¹ R. Crois, 'Oude bewoningssporen te Roksem', *Handelingen van het Genootschap voor Geschiedenis gesticht onder de benaming "Société d'Emulation" te Brugge* 104 (1967), 88-96.

¹² M. Redknap, 'Medieval pottery production at Mayen: recent advances, current problems', in D. Gaimster, M. Redknap and H.-H. Wegner (eds), *Zur Keramik des Mittelalters und der beginnenden Neuzeit im Rheinland. Medieval and later pottery from the Rhineland and its markets*, BAR International Ser. 440 (Oxford, 1988), 3-37.

¹³ As a possible source for this pottery, SE. Belgium and N. France are quoted; kilns are known from Huy (Liège, Belgium; J. Willems, *Le quartier artisanal gallo-romain et mérovingien de "Batta" à Huy*, *Archaeologia Belgica* 148 (Brussels, 1973) and Haucourt (N. France; P. Leman 'Fours du haut moyen-âge à Haucourt', in M. Fleury and P. Perin (eds.), *Problèmes de chronologie relative et absolue concernant les cimetières mérovingiens d'entre Loire et Rhin*, Bibliothèque de l'École des Hautes Etudes. IVe Section — Sciences historiques et philologiques 320 (Paris, 1978), 199-209.

¹⁴ See for example M. Cabal and H. Thoen, 'L'industrie du sel à Ardres à l'époque romaine', *Revue du Nord*, 67 (1985), 195 and R. De Ceunynck and H. Thoen, 'The Iron Age settlement at De Panne-Westhoek. Ecological and geological context', *Helinium*, 21 (1981), 37.

¹⁵ M. Rogge, op. cit. in note 1, class 7; A. Van Doorselaer and M. Rogge, 'Spätromische und völkerwanderungszeitliche handgefertigte Keramik im Gebiet zwischen Scheldetal und Nordseeküste', *Studien zur Sachsenforschung* 7 (Hildesheim, 1991), 113-20.

¹⁶ Briscoe Types A1a and A4a stamps. T. Briscoe, 'A classification of Anglo-Saxon pot stamp motifs and proposed terminology', *Studien zur Sachsenforschung* 4 (Hildesheim, 1981), 57-71.

¹⁷ G. Cumont, 'Les trouvailles dans les terres (terpen) de la Frise', *Annales de la Société d'Archéologie de Bruxelles* 21 (1907), 125-48; *Ibid.* 'Encore quelques vases de type Saxon trouvés dans les cimetières francs d'Anderlecht (près Bruxelles) et d'Harmignies (Hainaut)', *Annales de la Société d'Archéologie de Bruxelles*, 22 (1908), 301-11.

¹⁸ J. N. L. Myres, 'Some English parallels to the Anglo-Saxon pottery of Holland and Belgium in the Migration Period', *L'Antiquité Classique*, 17 (1948), 453-72, at 471.

¹⁹ C. Pilet, 'La céramique britanno-romaine et anglo-saxonne découverte dans les nécropoles bas-normandes', (Marseille, 1987), 87-93; C. Seillier, 'Céramique de type anglo-saxon du cimetière de Waben (Pas-de-Calais)', in *SFECAG Actes du congrès de Caen Antiquités Nationales*, 21 (1989), 83-89.

²⁰ Van Doorselaer and Rogge 1991, op. cit. in note 15, 115-16.

²¹ See for example P. de Paep and L. van Impe, 'Historical context and provenancing of Late Roman hand-made pottery from Belgium, the Netherlands and Germany', *Archeologie in Vlaanderen*, 1 (1991), 145-80.

²² Meer: L. van Impe, 'Meer: Merovingische grafvondsten', *Archeologie* 1976, no. 2, 95-96; Emelgem: A. Matthys, *Middeleeuwse verzamelingen van het Gruuthuse Museum (Brugge)*, (Oudheidkundige repertoria B-X, Brussels, 1975), 7; several small stray finds of possibly chaff-tempered pottery were also recorded from various sites in the region of Klein Brabant (BL): G. Segers, 'De Bewoning in Klein Brabant van de metaaltijden tot de vroege/middeleeuwen', *Acta Archaeologica Lovaniensia*, 26-27 (1987-88), 23.

²³ Rijnsburg: J. H. Holwerda, 'Het grafveld van Rijnsburg', *Leidsch Jaarboekje*, 11 (1914), 43-49; Monster: W. C. Braat, 'Brandgraven uit de 7e eeuw in de duinen bij Monster', *Oudheidkundige Mededelingen uit het Rijksmuseum van Oudheden te Leiden n.r. XXXVII* (1956), 82-91; Rhenen: J. Ypey, 'Das fränkische Gräberfeld zu Rhenen, Prov. Utrecht', *Berichten van de Rijksdienst voor het Oudheidkundig Bodemonderzoek*, 23 (1973), 289-312; Wageningen: W. A. Van Es, 'Het Rijnsgravel van Wageningen', *Palaeohistoria*, 10 (1964), 183-316.

²⁴ E. J. Bult and D. P. Hallewas, 'Archaeological evidence for the early medieval settlement around the Meuse and Rhine deltas up to c. AD 1000', in J. C. Besteman, J. M. Bos and H. A. Heidinga (eds.), *Medieval Archaeology in the Netherlands. Studies presented to H. H. van Regteren Altena* (Studies in Prae- en Protohistorie 4, Assen/Maastricht, 1990), 71-90, at 86; Van Doorselaer and Rogge 1990, op. cit. in note 15, 120.

²⁵ P. Huggins, 'Excavation of a Belgic and Romano-British Farm with Middle Saxon cemetery and churches at Nazeingbury, Essex, 1975-76', *Essex Archaeol. & Hist.*, 10 (1978), 29-117 at 77; P. D. C. Brown, 'Discussion of the finds' in M. Avery and P. D. C. Brown, 'Saxon features in Abingdon', *Oxoniensia*, 37 (1973), 76-81, at 81.

²⁶ M. Millett and D. Graham, *Excavations on the Romano-British small town at Neatham, Hants, 1969-79* (Winchester 1986); M. Fulford, *Silchester defences*, Britannia Monog 5 (London, 1984), 195.

- ²⁷ P. D. C. Brown, 'Some notes on grass-tempered pottery' in M. Farley, 'Saxon and medieval Walton, Aylesbury: excavations 1973-74', *Rec. Buckinghamshire*, 20 (1976), 153-290, at 192; B. Cunliffe, 'Saxon and Medieval settlement-patterns in the region of Chalton, Hampshire', *Medieval Archaeol.*, 16 (1972), 1-12.
- ²⁸ D. R. M. Gaimster, 'Dung-tempering? A late Norse Case Study from Caithness', *Medieval Ceramics*, 10 (1986), 43-47. This paper describes the widespread use of 'chaff-tempered' pottery in Caithness and Orkney in the 11th to 14th centuries in a context far removed in time and space from Anglo-Saxon chaff-tempered pottery.
- ²⁹ Brown, *op. cit.* in note 27, 192.
- ³⁰ A. Mainman, 'Studies of Anglo-Saxon pottery from Canterbury' in I. Freestone, C. Johns and T. Potter (eds.), *Current research in ceramics: thin-section studies*, British Museum Occ. Paper 32 (London, 1982), 93-101, at 100.
- ³¹ H. Hamerow, *Excavations at Mucking Vol. 2: the Anglo-Saxon settlement* (London, 1993), 31.
- ³² N. MacPherson-Grant forthcoming; Mainman, *op. cit.* in note 30, fig. 10.2.
- ³³ F. Berisford, *The Early Anglo-Saxon settlement sites in the Upper Thames Basin with special reference to the area around Cassington and Eynsham*, unpub. B.Litt. thesis (University of Oxford 1973), 150.
- ³⁴ Brown, *op. cit.* in note 27.
- ³⁵ S. Hawkes and C. L. Matthews, 'Early Saxon settlements and burials on Puddlehill, near Dunstable, Bedfordshire', in S. Hawkes, J. Campbell and P. D. C. Brown (eds.), *Anglo-Saxon studies in archaeology and history*, 4 (Oxford, 1985), 59-116, at 101.
- ³⁶ L. Mephram, 'Saxon Pottery from Market Lavington, Wiltshire', *Medieval Ceramics*, 15 (1991), 43. For Swindon: C. Ireland pers. comm.
- ³⁷ P. Rahtz 1974, 'Pottery in Somerset, A.D. 400-1066', in V. I. Evison, H. Hodges and J. G. Hurst (eds.) *Medieval Pottery from Excavations: Studies presented to Gerald Clough Dunning, with a bibliography of his works*, 95-126 (London). The cultural connections and date of the Somerset finds would probably be placed more firmly in the mid-Saxon period now than in 1974. P. J. Fowler, 'Two finds of Saxon domestic pottery in Wiltshire', *Wiltshire Archaeol. Nat. Hist. Mag.*, 61, 31-37.
- ³⁸ Brown, *op. cit.* in note 25, 80-81; P. V. Addyman, 'A Dark-Age settlement at Maxey, Northants.', *Medieval Archaeol.*, 8 (1964), 20-73, at 49.
- ³⁹ Hamerow, *op. cit.* in note 31, at 31; P. Drury and N. Wickenden, 'An early Saxon settlement within the Romano-British small town at Heybridge, Essex', *Medieval Archaeol.*, 26 (1982), 1-40; A. Russel, *Early Anglo-Saxon ceramics from East Anglia: a microprovenience study*, unpublished Ph.D. thesis, Faculty of Arts, University of Southampton (1984), 545 and Table 12.2.
- ⁴⁰ J. R. Timby (London, 1988), 'The Middle Saxon pottery', in P. Andrews (ed.), *Southampton Finds, Vol. 1: The Coins and Pottery from Hamwic*, 73-124. B. Cunliffe, 'The Saxon culture sequence at Portchester Castle', *Antiq. J.*, 50 (1970), 67-85 at 72-73; J. Cherry and R. Hodges, 'The chronology of Hamwic, Saxon Southampton, reconsidered', *Antiq. J.*, 58 (1978), 299-309 at 307.
- ⁴¹ Pers. Comm. N. MacPherson-Grant.
- ⁴² Addyman, *op. cit.* in note 38, 56-58; P. V. Addyman & J. B. Whitwell, 'Some Middle Saxon Pottery Types in Lincolnshire' *Antiq. J.*, 50 (1970), 96-102.
- ⁴³ A. G. Vince, 'The Medieval Ceramic Industry of the Severn Valley', unpublished Ph.D. thesis, Faculty of Arts, University of Southampton.
- ⁴⁴ Hamerow, *op. cit.* in note 31, fig. 16.
- ⁴⁵ *Ibid.*, 58, note 20. Chaff-tempering was also absent from 8th- and 9th-century pottery from the *emporium* at Ribe, Jutland examined by A. Vince in 1992 and 1993 nor is it known from the extensive excavations being carried out at the Germanic Iron Age to medieval rural settlement of Gamle Hviding, Jutland by S. Jensen (pers. comm. K. Feveile).
- ⁴⁶ Brown, *op. cit.* in note 27, 192n. The reference to chaff-tempered pottery from Dutch coastal sites cited by Brown in fact relates to Proto-Frisian material dating from between the 4th and 1st centuries B.C. A single sherd from the late Merovingian-Carolingian settlement at Bremen-Arbergen has been described as possibly chaff-tempered, but neither of the Migration Period settlements of Bremen-Mahndorf or Bremen-Grambke has yielded such material. K. Brandt, 'Spätsächsische Grubenhäuser in Bremen-Arbergen', *Quellenschrift zur Vor- und Frühgeschichte* (1982), 36, Abb. 3.24; H. Witte, pers. comm.
- ⁴⁷ W. Van Es, 'Early-medieval hand-made pottery from Den Burg, Texel, Prov. North Holland', *Berichten van de Rijksdienst voor het Oudheidkundig Bodemonderzoek*, 19 (1969), 129-34, at 132. Recent, as yet unpublished excavations at the terp of Wijnaldum (Friesland, NL), and pottery from earlier excavations, e.g. at Tritsum, reveal that chaff-tempered pottery is also present in Westergo. E. Taayke and E. Knol, 'Het vroeg-middeleeuwse aardwerk van Tritsum, gem. Franckeradeel', *Paleo-Aktueel*, 3 (1992), 84-88.
- ⁴⁸ D. Kidd, 'Some questions of method in the study of Migration Period pottery', in G. Kossack and J. Reichstein (eds.) *Archäologische Beiträge zur Chronologie der Völkerwanderungszeit* (Bonn, 1977), 96.