A different perspective on the Carolingian economy: Material culture and the role of rural communities in exchange systems of the eighth and ninth centuries

Kemme, A.W.A.

PART III

Characterisation of artefact distributions

Introduction

The analysis of ceramics and metal and stone artefacts found on sites in the research area allows several observations which are relevant for understanding how they were produced and distributed in various ways across our regions. This chapter aims to highlight the observations that can provide parameters for models of (developments in) distribution and consumption in the next chapter. In order to better understand the distribution of goods in our research area the wider occurrence of some groups of artefacts have been charted. Ceramics provide the most comprehensive information on regional variability and therefore these are covered in most detail. Both the wider dispersal of Rhineland ceramics in the Early Middle Ages and the ceramic profile of surrounding areas of the Carolingian world are discussed. This highlights shared characteristics but also regional specificity, something that can also be seen in brooch distributions. With regard to the finds in our research area the aspects which may be relevant for reconstructing channels through which exchange took place as well as what drove it are examined. These range from the organisation of production to the cultural contexts in which the consumption and exchanges of goods were embedded.

7.1 Ceramics

7.1.1 Ceramics in neighbouring areas

The distribution of early medieval ceramics produced in the German Rhineland was not confined to Germany or our research area. They have also been found in parts of modern day Belgium, England and Scandinavia. This is presumably part of the reason that they are considered by some historians as a marker of the complexity and volume of exchange in the north of the Carolingian world.[1] A brief overview of the wider distribution of Rhineland wares is necessary to understand the full context of their dispersal in our research area. Additionally, a consideration of the organisation of production and distribution of ceramics in general in neighbouring areas can help determine whether the situation in the Rhineland can indeed be used as a proxy for scale and intensity of exchange systems in our period. The following overview of the dispersal of eighth and ninth century Rhenish wares is undoubtedly incomplete. A more thorough inventory of sites for each region to be discussed would have been necessary to present a comprehensive picture. However, the trends that can be seen in the data from various regions is consistent enough to draw firm conclusions regarding the distribution of Rhineland pottery.

As far as finds in Germany are concerned, the situation in those parts to the east of the Rhine, neighbouring our research area was discussed with regard to developments in handmade pottery in chapter 4.[2] Rhineland pottery does not appear to have been an important part of assemblages there. To the left of the Rhine two well published find complexes in the Lower Rhine region of Germany are of interest. The first comes from the excavations at the Heumarkt in Cologne and the other from the site Hambach 500, located roughly half-way between Cologne and Maastricht.[3] The Heumarkt site consisted of a section of the early medieval town of Cologne, Hambach 500 can be considered a rural settlement.

1 McCormick 2001, 656-661; Wickham 2005, 702-706.
2 Chapter 4, section 4.6. See also Verhoeven 1998, 39.
3 Höltken 2003; Heege 1997.

The finds from Cologne are interesting because of the proximity to the production centres of the Vorgebirge. It would have been the closest large town and therefore might be presumed to have been one of the main consumers of Vorgebirge pottery in the direct vicinity of the production centre. The pottery was recovered from features dated between the eighth and tenth century.[4] These traces were covered by a layer connected with the first market square at the location, established around the middle of the tenth century. A number of observations are particular noteworthy. First, among the globular pots discovered in features of the earliest phase a considerable amount was of Mayen manufacture, but their proportion decreased gradually in each successive phase in favour of Vorgebirge examples.[5] Second, while the percentages of reliefband amphorae, globular pots and bowls are comparable to those for the harbour area of Dorestad (HS I), there are clear differences in the proportions of WII storage vessels and WIX jars.[6] The former are far better represented at Dorestad (39% at Dorestad against 18,6% at the Heumarkt) whereas the latter are more common at the Heumarkt (1,9% at Dorestad compared to 15,9% at the Heumarkt). For Höltken the figures are reason to identify the Heumarkt site as part of a town comparable to Dorestad, particularly because the rural settlement Hambach 500 contained hardly any WI and WII type sherds.

However, the Heumarkt figures seem to be much more analogous to those found on rural sites in our research area than on sites considered to be towns. At Dorestad a similar percentage of WII type pots has only been encountered at the HS O and HS IV parts of the harbour area, both believed to represent relatively early phases in the development of the jetties. At the Heumarkt there was no apparent break in habitation throughout the eighth and ninth century. The characteristics of the excavated buildings and the remains of ovens discovered at the Heumarkt leave little doubt it can be considered a town but at the same time the ceramics do not differentiate it from rural settlements in our research area. It is therefore questionable whether Cologne was the primary market for WII type vessels. It could be argued the vessels were used as containers during transport and intended to be filled with other goods at Cologne. If such transfers of goods did take place the vessels might have been broken less often in Cologne than at Dorestad even though demand for the vessels originated at Cologne. However, if that were the case it needs to be explained why in the late eighth and early ninth century Cologne required such a volume of storage and pouring vessels. Perhaps wine from further downstream was transferred from barrels to pots, though it makes more sense for that to have happened at Dorestad, if it happened at all. Furthermore, wine was almost certainly being exchanged in barrels along the Rhine long before dedicated storage vessels became important constituents of ceramic assemblages.[7]

The Hambach 500 site is interesting mainly for two reasons, its location between the Rhine and Meuse, and the fact it was a rural settlement relatively close to the Vorgebirge production centres. Based on the ceramic evidence the site was continually inhabited from the sixth to the ninth century, though perhaps with a reduction in size in the first half of the eighth century.[8] The site yielded a large amount of Vorgebirge pottery, namely 1259 sherds (735 BAD, 524 WALB) and a reasonable

4 Höltken 2003, 511.
5 Höltken 2003, 532.
6 Höltken 2003, 439.
7 Jansma/Van Lanen 2015.
8 Heege 1997, 146-149. The presumed decrease in settlement intensity may be a problem of archaeological dating methods. Only a few relatively uncommon types are explicitly dated to the first half of the eighth century as was demonstrated in chapter 4. However, some of the Merovingian style pots may have remained in use into the eighth century and globular pots were likely introduced early in the century. This may even out the observed differences with the preceding and succeeding periods.

amount (128) of Mayen fragments was also recovered.[9] The types consisted of some early Vorgebirge pots, mainly *Wölbwandtöpfe*, type WIX jars, globular pots, and a few sherds of WII type vessels and reliefband amphorae. Globular pots dominated the assemblage, with only 6 rims and no more than ten wall sherds showing roulette stamp decoration belonging to WII type vessels. In fact, it is not entirely clear whether storage vessels of type WII were present at all. In addition only three wall sherds of reliefband amphorae were discovered.

The evidence from Hambach clearly indicates that ceramics from the Vorgebirge were transported over land in the area lying between the Rhine and Meuse valleys.[10] Although we have no rural sites available for the southern half of the Dutch province of Limburg, finds discovered during excavation at the abbey of Susteren indicate that relatively large quantities of Vorgebirge ceramics were consumed there.[11] This opens up the possibility that part of the research area was supplied with Vorgebirge (and perhaps also Mayen) ceramics that followed a route over land to the Meuse and then further downstream. The small amount of WII type vessels at Hambach is remarkable when compared to rural sites in our research area. Heege questions whether this should be seen as the result of it being a rural settlement or if it is perhaps due to the chronology of the site.[12] In the context of sites in our research area the comparatively large amount of Walberberg sherds and small number of WII type fragments would likely lead to selecting the second option. However, without more evidence form rural sites in the surrounding area of Hambach it is impossible to be certain.

The situation in Belgium is such that we have reasonably good information for the (north)west but very little for the east of the country. In the period between roughly the fifth and eighth centuries the west can be divided into several distinct regions as far as ceramic traditions are concerned.[13] The differences lie mainly in the proportions of wheel-turned pottery, which was always imported, and in the temper used in locally produced handmade ceramics. On sites along the coast handmade wares were manufactured using chaff temper, and wheel-turned pottery, believed to have been produced in the Eifel and northern France, often made up a proportion of assemblages.[14] Sites in an area roughly delimited by the rivers Leie, Scheldt and Dender were characterised by chamotte tempered handmade vessels and also small proportions of imported wheel-turned pottery.[15] Between this area and the coast lay a zone where handmade vessels manufactured with both kinds of temper could occur. Finally an area equated with the modern province of Antwerp had handmade wares with temper consisting of lumps of iron-oxide.[16] Wheel-turned ceramics are very uncommon on sites of the fifth to eighth century in this region but have been found abundantly in burials. The region lies directly to the south of our subregions 8.1 and 8.2.

---

9 Heege 1997, 111-116, 215-219.
10 Heege 1997, 164-166.
11 The ceramics found during the excavations of the abbey have yet to be published, but basic figures were presented in a paper by Henk Stoepker at the conference "Merovingisch Limburg" on 22 April 2016 held in Stein, province of Limburg.
12 Heege 1997, 149.
13 De Clercq/De Groote 2015, 361-372; Demolon/Verhaeghe 1993, 385-407; Hollevoet 2006, 243-248; Verstappen 2015, 93-106.
14 Hollevoet 2006, 243. Unfortunately find reports of sites in Flanders, both of older and more recent date, rarely contain clear figures on ceramics. Therefore it is difficult to assess the relative importance of imported pottery, both for the Merovingian and Carolingian period. Therefore, for the moment we are mainly dependent on regional overviews. In addition, it is only in the last few years that the number of early medieval sites discovered in Flanders has increased, mostly due to new laws making archaeological research part of the process preceding construction work.
15 De Clercq/De Groote 2015, 362.
16 Verstappen 2015, 94-102.

During the ninth century the ceramic profile of each of these regions became very similar. The various recipes for handmade pottery were replaced with sand-temper and the common vessel shape became the handmade globular pot.[17] In most areas wheel-turned ceramics from the Rhineland disappeared almost completely, the exception being the region represented by the province of Antwerp.[18] There Rhenish ceramics were still generally in the minority on sites but at the same time were a much more prominent part of assemblages than further west.[19] The wheel-turned pottery was almost exclusively made in the Vorgebirge, Mayen is rarely found. This is also the region where evidence for the production of Vorgebirge inspired pottery has been discovered.[20] However, the introduction of Rhineland pottery does not appear to have occurred before the ninth century.[21] The Antwerp area seems to be the most south-westerly region where Carolingian Vorgebirge pottery constituted an important part of assemblages on rural sites (Fig. 7.1).

As mentioned, very little information is available on the dispersal of Rhineland pottery in the east of Belgium, simply because there have been few substantial excavations of settlements dating to the eighth and ninth century. In the Middle Meuse valley, roughly between Namur and Liege Badorf and Mayen sherds have been found at several sites.[22] Contrary to many other regions Mayen apparently far outnumbers Vorgebirge wares.[23] Pottery production in the Middle Meuse valley in the Carolingian period was discussed in chapter 4. General characteristics seem to have been production at multiple sites and a distribution that extended into our research area.[24] However, the volume of vessels being transported over large distances does not seem to have been very substantial and production may have been geared mainly toward local or regional consumers. Unfortunately this is impossible to determine with certainty due to a lack of well published rural sites in the Middle Meuse valley and immediately surrounding areas.

When it comes to northern France some developments show similarities with those in our regions, while there are also clear differences. Broadly speaking there is a comparable transition from a Merovingian tradition to a Carolingian tradition. This comprises a reduction and standardisation of vessel forms. In particular, biconical pots and open forms, such as bowls and dishes either disappeared or became much less common.[25] The observed standardisation could be taken as an indication that there were fewer production centres in the eighth and ninth century than in preceding centuries. In some regions such as Centre and Alsace this indeed appears to have happened. Several small-scale production sites with a limited distribution were replaced by larger centres with a wider distribution, perhaps up to a hundred kilometres.[26] However, in other areas the change from one

17 De Clercq/De Groote 2015, 364-366.
18 Several sites in the area surrounding Bruges and Gent have yielded fragments of Vorgebirge pottery but it often seems to be in very small quantities. Examples are Ettelgem-Oudekerkstraat I (Hollevoet 2000, 88), Merendree-Gerolfsweg (De Logi 2015), Roksem-Hoge Dijken (Hollevoet 1991, 190-191), Uitkerke-Groenwaecke (Hermans 2012, 83). Again, it is often difficult to get a clear picture of the exact amount of imported wares, see note 14 above. In addition, in some cases the Rhenish pottery seems to consists only of fragments of reliefband amphora suggesting the finds may be post-Carolingian (for example at Merendree-Gerolfsweg).
19 For example Beerse-Krommenhof (Delaruelle/Doninck 2010, 4-17; Verstappen 2015, 98), Brecht-Zoegweg (Verbeek/Delaruelle 2004), Geel (Mervis/Deville 2014, 238-253), Hove-Cueteghem (Annaert et al. 2015, 239-250).
20 Arts/Siemons in prep. Also see chapter 4, section 4.5.
21 Verstappen 2015, 103-104.
22 De Longueville 2006, 56.
23 Colette et al. 2006, 109.
24 De Longueville 2006, See also chapter 4, section 4.4.
25 This observation is based on the results of three conferences on early medieval ceramics staged at Outreau (Piton 1993), Caen (Hincker/Husi 2006) and Douai (Louis/Thuillier 2015) of which papers were published in three volumes.
26 Châtelet 2015; Bouillon 2015.

tradition to another did not lead to larger scale production and more widely distributed wares. In the area surrounding Douai seven production sites have been identified collectively covering a period roughly between the seventh and twelfth century.[27] None is deemed to have had a particularly wide distribution area, although Douai products are believed to be present on some English sites. The same is true of vessels from the production site of La Londe near Rouen which was also limited to a comparatively small local area, except for a proportion which was transported to England.[28]

The local or regional character of the circulation of pottery is not only evidenced by the dissemination of known production sites but also by settlement finds. In Ile-de-France perhaps two main centres are thought to have existed, but with several smaller producers alongside.[29] In order to determine the distribution of the production site at La Calotterie in Pas-de-Calais samples of ceramics from a nearby settlement site were analysed.[30] Four different origins for the pottery could be distinguished, each most likely having been manufactured in the surrounding area. In Basse-Normandie the start of the creation of larger production centres is dated to the second half of the tenth century.[31] In fact the largest investigated production centre of the eighth and ninth century in northern France, at Serris in the region Centre is thought to have had a distribution area of up to 100 kilometres.[32] Although this is considerable, it is still less than the products of the Vorgebirge, let alone Mayen, travelled before they reached the research area. More commonly the distribution of production sites in France is believed to have been between ten and 50 kilometres, in other words local or regional in character.

Another important difference between French and Rhineland ceramics is not related to production and distribution, but to the nature of developments in ceramics. Although a noticeable shift took place in the kind of vessels that were available in the period from the seventh to tenth century, changes in coarse wares were often gradual rather than dramatic.[33] For example, there appears to have been a gradual disappearance of red wares and introduction of white wares, while grey wares remained common throughout. Production centres where only red wares or a combination of red and grey wares were made generally date to the sixth to ninth centuries and sites where only grey wares were produced mainly date between the eighth and eleventh[th] centuries. Sites with a combination of white wares and red and/or grey wares often date between the eighth and early tenth century, but the red fired examples are often in the minority in those cases. At sites where solely white wares were manufactured production usually started in the tenth or eleventh century.[34] Lenticular bases were probably introduced at least a century after they had been in the Rhineland but painted

27 Louis 2015.
28 Roy 1993.
29 Lefèvre et al. 2015; Lefèvre 2006, 225.
30 Thuillier/Routier/Bocquet-Liénard/Harnay 2015, 113-119.
31 Hincker 2006, 138.
32 Bouillon 2015, 207-209;
33 Georges-Leroy/Lenoble 1993.
34 Examples of only red wares: Ingré (Bouillon 2015, 199), Ludres (Prévot/Prouteau 2015, 261-264), Marboué (Bouillon 2015, 196-197), Trémentines (Dubillot/Valais 2006, 48); examples of red and grey wares: Bayeux (Hincker/Jardel/Savary/Delacampagne 2006, 77-80), Chaudry (Hurard 2006, 68; Lefèvre et al. 2015, 140-142), La Saulsotte (Lagatie 2015, 247-260), Racquinghem (Thuillier 2015, 123-138), Subles (Hincker/Jardel/Savary/Delacampagne 2006, 77-80); examples of only grey wares: Saint-Maurice-Montcouronne (Goustard 2015, 164-171), Sevrey-Les Tulpiniers and Sevrey-Rue Georges-Brusson (Mani/Simonon/Peter 2015, 270-278), Roinville-sous-Dourdan (Lefèvre et al. 2015, 145-146); examples of white and red/grey wares: Baralle (Louis 2015, 64-66), La Caloterrie (Thuillier/Routier/Bocquet-Liénard/Harnay 2015, 113-116), Paris-Tour Saint-Jacques (Lefèvre et al. 2015, 142-145), Vanves (Lafèvre/Peixoto 2015, 157); examples of only white wares: Douai-Rue de l'Eveque (Louis 2015, 67-71), Lassy (Lefèvre et al. 2015, 142), Moulin-sur-Céphons (Querrien/Roy 2015, 213-226), Saint-Maurice-Montcouronne (Goustard 2015, 172-178). La Londe is an exception with production consisting only of white-wares in the eighth century (Roy 1993, 346).

decoration might have become a feature of some French production sites a little earlier.[35] In many respects these developments can be observed in the Middle Meuse valley as well. The reduction in fine-wares did not follow the same course in each region.[36] Lorraine is one area which is similar to some of our regions in that wheel-turned pottery was largely replaced by handmade pottery by the middle of the seventh century and remained so during the Carolingian period, though with some technological changes.[37] In general, handmade pottery seems to have only been of importance in the northwest and northeast of France.[38]

This overview of developments in ceramics in various regions of northern France is by no means comprehensive, and is undoubtedly an oversimplification. However, what it makes clear is that there was quite a lot of variation in how ceramics developed. Additionally, in terms of the distribution of ceramics the main differences with our research area are that even the largest production centres seem to have had a catchment area of around 100 kilometres, although a proportion might have been transported further to England. The two producers of wheel-turned pottery in the research area were situated at a distance of at least 125 kilometres, but potentially over 300 kilometres depending on the region and the route taken. In addition, in many cases sites in France appear to have been supplied by several production centres that lay relatively close by rather than by a limited number further afield.

Several sites in England have produced sherds of Vorgebirge and Mayen pottery, but rarely in any great quantities. The largest published assemblage of Rhineland pottery dating to the eighth and ninth century was found at Ipswich and consisted of 132 vessels.[39] However this is an exception, with finds of Rhineland ceramics hardly making it to double figures on most sites.[40] Early Vorgebirge sherds have been found at sites in London, Ipswich and Flixborough.[41] Several of the isolated finds of Vorgebirge pottery dated to the ninth century concern reliefband amphorae, which could in fact

35 Husi 2006, 174-175. In Alsace red on white painted vessels have been dated to the end of the seventh century which seems very early indeed (Châtelet 2015, 441-443).

36 For example in the area of Saint-André-de-l'Eure where evidence from production and settlement sites indicates a development of more coarse versus fine wares and a reduction in forms happened in the mid sixth to mid seventh century, followed by a period up to the middle of the eighth century where finewares increased as well as the number of production centres. The next century saw a disappearance of open forms, but an increase in the amount of jugs (Adrian 2006).

37 Bressoud/Frauciel/Gazenbeek/Michel 2015; Frauciel/Lansival/Prouteau 2015.

38 In the northwest (regions Pas-de-Calais and Nord) the importance of handmade pottery in the eighth and ninth century is difficult to gauge because of a general lack of research (Demolon/Verhaeghe 1993; Verhoeven 1998, 44-47). At the production site La Caloterrie dated to the eighth and ninth century only a small proportion appears to have been handmade. In the northeast of France handmade pottery is the dominant form in Lorraine and the south of Alsace (Châtelet 2015; Bressoud/Frauciel/Gazenbeek/Michel 2015; Frauciel/Lansival/Prouteau 2015). It is most likely a regional tradition which has nothing to do with handmade ceramics in our area. The exact extent of this tradition is not clear but finds of seemingly similar handmade vessels at Echternach imply the northern extent included parts of Luxemburg (Verhoeven 1998, 53).

39 Coutts 1991.

40 It was not possible to acquire the exact amount for all the sites shown in figure 7.1 but the numbers appear to be below five fragments at Barton Bendish, Caister-On-Sea, Congham, Sedgeford and Thetford (Davies 2010, figure 27), Brandon, Bolton-Percy, Canterbury, Jarrow, Old Windsor, Quinton and Winchester (Coutts 1991, 128 and 266), York (Naylor 2002, 263-264) and Sandtun (Gardiner et al. 2001, 269). At Flixborough 12 sherds of a single late seventh or early eighth century vessel from the Vorgebirge were discovered (Young/Vince 2009, 364-365). Eleven sherds from Lincoln assigned to Badorf may belong to the tenth century (Adams Gilmour 1988, 166) and fourteen fragments from Lyminge were also attributed to the Vorgebirge, though with some hesitation (Jervis 2011). Finds of later eighth and ninth century Badorf in London are said to be infrequent (Blackmore 2001, 31).

41 Blackmore 2001 30-32; Coutts 1991, 137-138; Vince/Young 2009, 364-365.

belong to the tenth century.[42] Published sherds are often not specifically associated with a vessel type, but where they are mentioned it either concerns WII-types or the already mentioned reliefband amphorae. Globular pots do not seem to have reached English sites often, though this is difficult to say for certain. Very few examples of Mayen production have been identified on English sites and none of the illustrated Ipswich finds point to the presence of globular pots.[43] Only one vessel each could be assigned to Mayen and Walberberg production at Ipswich. On many seventh to ninth century sites continental imports mainly consist of wares linked to production centres in France. For example, at York-Fishergate roughly 37% of the seventh and eighth century ceramics were continental imports, the bulk of which consisted of wares associated with North French production.[44] At Hamwic pottery from France and the Low Countries accounts for 97% of the imported wares and just 2% was attributed to the Rhineland.[45] Most of the latter came from Mayen and just two sherds were assigned to Badorf. Finally, Tating ware has been discovered in small quantities at several sites such as Ipswich, Hamwic, London and York.

The picture provided by Scandinavian finds is slightly different. At most sites where Rhineland ceramics have been recovered they represent a minority among the total assemblage, but in some cases their share is still considerable. Haithabu, Ribe and Kaupang stand out because, although the percentage of Rhineland wares is relatively small among the total assemblages, the sherd count is high compared for example to sites in our research area. That is, as far as it can be deduced from the published data which do not always give exact figures and not all campaigns have been fully published. Excavations carried out at Kaupang between 1998 and 2003 yielded 1814 sherds of Vorgebirge pottery, about 36% of the total assemblage by sherd count, though the figure was 24% for stratified contexts.[46] The impression is that the majority of the material consisted of storage and pouring vessels but the number of diagnostic sherds was limited so the presence of globular pots cannot be ruled out. A specific characteristic of Kaupang is the fact that the entire ceramic assemblage is believed to consist of imports. The site itself is dated between 800 and 960/80 but due to the lack of Pingsdorf or any other tenth century wares, the import of Continental ceramics is thought to have ceased by the end of the ninth century.[47]

The figures given here for Ribe are entirely based on the 1970-1976 excavations. The assemblage consisted of 8654 sherds of which 634 were originally considered imports.[48] However, a group of coarse wheel-turned pottery later turned out to be a regional product of which manufacture was apparently limited to the first half of the eighth century.[49] Wheel-turned pottery production had no antecedents in Denmark and did not return until the tenth century. The published examples are more similar to pottery in a Merovingian than a Carolingian tradition which broadly fits with the dating of the Ribe finds. Excavations at Ribe have revealed well preserved stratigraphical sequences which

42 For example the two sherds of Badorf found at York-Coppergate (Mainman 1990), finds from Norwich (Jennings 1981, 25-27) and Winchester (Dunning 1959).
43 Some examples of Mayen pottery were discovered at York-Fishergate and a single sherd from Whitby (Naylor 2002, 263). For Ipswich see Coutts 1991, 122-125, 131-133 and 138-139.
44 Naylor 2002, 117-118.
45 Brown 2006, 321, table 1.
46 Pilø 2011, 286-292.
47 Pilø/Skre 2011, 26; Pilø 2011, 302-303.
48 Madsen 2004, 223.
49 The pottery contribution was completed in 1991 but in the 13 years between completion and publication additional research showed this group of ceramics to have been produced at at least two sites in Denmark, including Ribe (Madsen 2004, 257; Feveile/Jensen/Rasmussen 1998).

offers opportunities for refining artefact chronologies.[50] Imported ceramics were not particularly common before the middle of the eighth century while the bulk of finds belonged to the period between 760 and 800 AD.[51] Shell-tempered handmade pottery and a light coloured wheel-thrown group believed to have been produced in the Vorgebirge were found most in features belonging to that period. Sherds specifically assigned to Badorf manufacture were common in that period as well, but they made up the majority of sherds from features dated after 800 and from recent features as well. Based on the illustrations and the description of the finds the sherds associated with Badorf belonged to reliefband amphorae, storage and pouring vessels.[52] Only two sherds could probably be identified as Mayen production while 22 fragments of Tating ware were discovered.

Haithabu is thought to have been founded around 800 and occupied up to the middle of the eleventh century.[53] It is likely that globular pots made up only a fraction of the total amount of Rhineland imports at the site.[54] The description of Badorf ware and the illustrations belonging to Badorf pots suggest that storage and pouring vessels were the most common types. However, the manner in which the data on wheel-turned pottery was presented means that it is possible that a portion of the vessels assigned to Badorf ware consisted of globular pots. Vessels in Walberberg and Mayen ware, all globular pots, made up just 1% and 0,3% of the total sherd weight among the imported wares assigned to the Carolingian occupation phase.[55] Vorgebirge ceramics were therefore virtually the only wheel-turned wares present at the site.

Finally, there is not much published data on the pottery found at Birka, but Rhineland ceramics comprised about 1,5% of the total ceramic assemblage and 9% of imported wares.[56] Vorgebirge sherds appear to have been most common among the Rhineland ceramics, only one vessel was assigned to Mayen, and Tating ware was also present.

The Scandinavian sites show a number of similarities. Each of the sites where Rhineland pottery has been discovered in Norway and Sweden is clearly not a rural settlement. In fact Vorgebirge and Mayen pottery has hardly been found on rural sites in northern Europe and similar to English sites Mayen pots have rarely been found at all. The only exception is Haithabu where Mayen made up only a fraction of the wheel-turned pottery, but the number of sherds was (presumably) still considerably higher than at other Scandinavian and English sites. Another characteristic Scandinavian sites all share is the presence of a small, but still relatively substantial amount of Tating ware compared to sites in our research area.

The overview of the distribution of eighth and ninth century Rhineland wares suggests that apart from a few sites in Scandinavia they were not transported in great numbers outside our research area (Fig. 7.1). The areas with higher proportions in neighbouring parts of Belgium can probably be understood as an extension of the distribution patterns in rural areas seen in the research area. In England and Scandinavia the finds are confined to sites with a close link to the coast. Rhineland pottery is not (structurally) part of more inland assemblages in either region. For most

50 Feveile/Jensen 2000, 9-12.
51 Madsen 2004, 253 figure 28.
52 Madsen 2004, 254-255 and figures 31 and 32.
53 Schultze 2005.
54 Janssen 1987.
55 Jansen 1987, 70-75. The proportions will have been somewhat higher for the Carolingian period alone, but because Jansen made no distinction between early and late reliefband amphorae the exact figure cannot be determined. Considering the total weight of Pingsdorf sherds was almost twice as much as that of Badorf it can be expected that a large proportion of the fragments of reliefband amphorae also postdate the Carolingian occupation phase.
56 Bäck 1995, 4-21.

sites in Scandinavia it has been suggested that the Rhineland pots were brought and used by visiting traders.[57] The lack of inland penetration makes it unlikely they were transported to those areas as a commodity. Whatever reasons there were for the distribution of Rhineland pottery in England and Scandinavia, the evidence suggest they differed from the rational of exchange systems at work in the research area. Again, it is highly unlikely Rhineland production was geared towards export beyond the borders of the Carolingian world, either as a commodity in itself or as a container. This raises the question what storage vessels were intended for, if they were not produced for 'export' purposes.

With regard to our research area a few observations can be made with the evidence from surrounding areas in mind (Fig. 7.2). First, the relatively large assemblages of Rhineland pottery on sites along the Rhine, the western coast and south of our research area appear to be largely unmatched elsewhere. Similar figures are only encountered elsewhere on a small number of sites with a specific character, mainly in Scandinavia. Second, the situation that wheel-turned pottery used on sites in the central Dutch river area, the western coast and the south of the research area originated from just two suppliers located at some distance from consumer sites does not appear to be particularly common in neighbouring parts of the Carolingian world as the evidence from Northern France indicates. Third, even though the remainder of the research area may not have consumed Rhineland pottery, this was only due to an increased importance of locally produced handmade wares, not because of the availability of wheel-turned ceramics manufactured at a local or regional level. Fourth, it is remarkable to conclude that eighth and ninth century Mayen pottery hardly travelled beyond the research area to the coast of Belgium and Northern France, England or Scandinavia. It was certainly nowhere near as important as Vorgebirge exports. At the same time there was no apparent break in the distribution of Mayen millstones to the Belgian coast and England.[58] The picture provided by excavations in Mayen itself is that production of pottery was intensified and specialised in the eighth and ninth century.[59]

7.1.2 Characterisation of ceramics in the research area

The observations relating to ceramics can be split up into several themes. First, in terms of the organisation of production the late seventh and eighth century saw changes in the location of production sites relative to rural settlements in our area of research. In some regions the changes were quite dramatic, in others fairly limited (Fig. 7.3a and b, Fig. 7.4a and b). In the central Dutch river area and the western coast a large proportion of ceramics may already have originated in the German Rhineland in the seventh century.[60]

---

57 Steuer 1987,135-142; Sindbaek 2007, 121; Pilø 2011, 304.
58 Parkhouse 1997.
59 See chapter 4, section 4.3.
60 There is some disagreement over the exact proportions of regional and Rhineland pottery on sites along the Rhine and the western coast. Some believe virtually all wheel-turned pottery in these areas was produced in the German Rhineland whereas others contest that the lack of production sites in the region does not necessarily imply a lack of regional production. The reason that it is difficult to tell one way or the other is that Rhineland pottery in the seventh century does not always have distinctive characteristics. Mayen pottery has augite inclusions but not every sherd need contain them. Nonetheless, the available evidence from a series of sites indicates that there is usually a proportion of roughly 10 to 25 percent of sherds with augite inclusions on sites along the Rhine and the western coast. In addition, WXIV type vessels are almost exclusively found in this part of the research area implying there were early links with the Vorgebirge. A comparison of sherds from the seventh century site Oegstgeest-Rijnfront with finds from Waldorf indicates a considerable proportion of the Oegstgeest finds were produced in the Vorgebirge.

Fig. 7.1 Indication of the distribution of Vorgebirge ceramics and their relative importance in site assemblages.

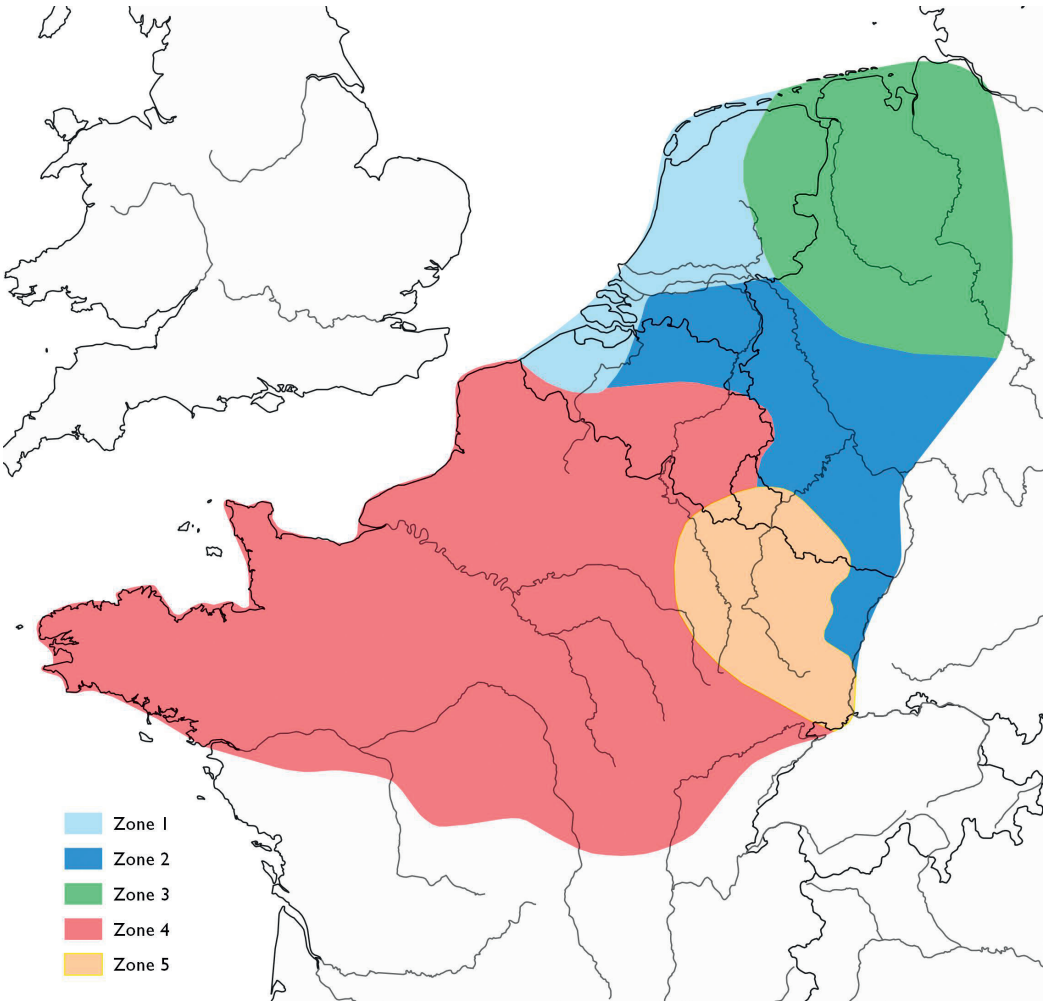

Fig. 7.2 Simplified overview of ceramic zones in and around our research area in the eighth and ninth centuries. In zone 1 handmade ceramics were most common but Rhineland pottery also occurs, zone 2 represents an area where Rhineland ceramics make up the majority of site assemblages, zone 3 and 5 are dominated by handmade pottery, and zone 5 covers the French and Meuse-valley ceramic tradition.

In the same areas it seems that early in the eighth century locally made pots became more important in ceramic assemblages, particularly to the north of the Rhine, but also on the Veluwe (region 4). Sites closest to the Rhine have some of the highest proportions of Rhineland ceramics in the eighth and ninth centuries but the picture differs depending on the specific stretch one looks at. The area between Wijk bij Duurstede and Utrecht contains sites with very high proportions of supra-regionally sourced pottery while the sites around the mouth of the Rhine already have fairly high proportions of locally made products.

Sites along the Rhine between the border with Germany and Wijk bij Duurstede show a different development. In the seventh and early eighth century regional wares still dominate, with production

in this period attested just to the west of Nijmegen.[61] Regional production is replaced by Vorgebirge and Mayen wares in the eighth century, just as in other areas, but the proportion of supra-regional to local wares was more similar to the sites at the mouth of the Rhine than those on the central stretch of the river. In other words, there does not appear to have been a simple fall-off curve with sites further down the Rhine being increasingly more reliant on local products.

In the west of the province of Friesland a similar shift from mainly (supra-) regional to local pottery can be discerned but it took place earlier, in the course of the seventh century. By the late seventh century supra-regionally sourced pottery had become very uncommon at Wijnaldum (18) though the proportion did rise slightly in the eighth and ninth centuries. Similar proportions have been observed at other sites in the area. As a whole, inhabitants of the northern region 1 mainly used locally produced pots in the Carolingian period, with a gradual drop in supra-regional wares from west to east.

Just as in the east of region 1, sites in the neighbouring regions 2 and 3.1 have yielded very few fragments of supra-regionally produced vessels, a situation which essentially remained the same during the entire Early Middle Ages. There was also little change in the proportions of local and supra-regional wares in the south of region 3 but there a small but significant amount of imported pots was always present. In short, the evidence reveals that sites in the northeast of our research area did not systematically incorporate vessels from outside their local area into the household corpus of pots, either before or after becoming part of the Carolingian empire.

In the south of the research area (region 8) seventh century ceramic assemblages were dominated by what were likely regionally produced wheel-turned pots. The evidence from several sites indicates that this regional tradition was replaced within 30 years at the start of the eighth century by supra-regional wares. Some wheel-turned ceramics were still produced in the region, but on current evidence the importance was probably limited. In the ninth century a further development was the increasing prominence of handmade pottery which may have been made locally or at a regional level. This development did not take place at the same time everywhere in the region. In our period it can be seen most clearly in the east while in the west of the region it appears to have taken place in the tenth century.

Finally, developments during our period are difficult to follow in region 7 because most (excavated parts of) sites do not seem to have been established until the ninth century.

Second, the range of specific functions of the pots available to rural dwellers changed in the course of the eighth and ninth century. In the seventh and early eighth century wheel-turned pottery was made in a more varied array of forms than in the later eighth century. Earlier assemblages could consist of jars, used either for cooking or storage, bottles, amphorae, dishes, biconical pots, jugs and mortaria. In the later eighth century pots with a shared function of cooking or storage, amphorae and dishes remained available, but the latter had become less common and biconical pots had virtually disappeared. Vessels designed specifically for pouring were not very frequent during much of eighth century. In the late eighth century however, two new vessel types were developed in the Vorgebirge which most likely had specific functions for storage and pouring. Differences in assemblages at the household level between the seventh and later eighth and ninth century may not have been so great and variability may not have been much reduced either. But the general trend toward a slightly more sober ceramic corpus that has been observed in France seems to apply to our region as well.

61 De Mul 1980.

In chapter 4 wheel-turned globular pots were primarily associated with cooking for analytical purposes, but it is quite possible that a proportion of these pots was used for storage. The same is true for handmade *Kugeltöpfe*. Larger examples in particular could have fulfilled a storage function. At the production site in Beerse, where Vorgebirge vessels were imitated, different sizes of globular pots were produced, some fairly large. In areas where wheel-turned wares make up only a small proportion of total assemblages it is conceivable that wheel-turned globular pots were intended for the storage or preparation of specific substances, for which *Kugeltöpfe* were deemed less suitable.

The third point follows on from the second. What the south and the west of the research area (regions 4, 5, 6 and 8) have in common is that in a relatively brief period at the start of the eighth century rounded pots replaced the existing 'bucket'-shaped pots, or *Wölbwandtöpfe,* as the most common vessel type. However, in some parts the *Wölbwandtopf* was replaced mainly by locally produced *Kugeltöpfe* and in others by supra-regionally manufactured globular pots. This raises the question whether the introduction of the two vessel types, globular pots and *Kugeltöpfe*, was in some way related. Suggesting a link between the introduction of wheel-turned globular pots and *Kugeltöpfe* is not new. Schindler believed the *Kugeltopf* was modelled on vessels from Mayen and Badorf, whereas Hinz thought the reverse was the case.[62] However, the prevailing view has long been that the introduction of the *Kugeltopf* was an internal development that took place in the coastal region of the Netherlands.[63]

Arguing one way or the other has consequences when considering relationships between consumers and producers. For example, if the *Kugeltopf* was an internal development, were Rhenish potters adapting to changing demand from inhabitants of regions 5 and 6? However, if *Kugeltöpfe* were inspired by wheel-turned examples it has to be explained why people in an area that made limited use of handmade pots ended up with household assemblages often dominated by them. Why not just use the wheel-turned globular pots? Furthermore, whatever the exact genealogy of the vessels, a greater reliance on locally produced handmade pottery must have created new relationships between producers and consumers. The production of *Kugeltöpfe* may have been largely a matter of household production and distributed at a village level, fitting into existing exchange relations. However, inhabitants of some sites, such as Bloemendaal, would almost certainly have had to bring them in from other settlements.

Compared to the south though, changes in the distribution channels of pottery may have been relatively limited in regions 5 and 6, considering the already extant supply of wheel-turned pottery from the Rhineland. In the south of the research area regional producers were virtually wiped out in a relatively short period. This could imply rather weak relations between consumers and producers but that still does not explain why the regional producers did not adapt their wares.[64]

62 Hinz 1965, 280; Schindler 1959, 71.
63 Verhoeven 1998, 21-24, 251-252; Dijkstra 2011b, 312.
64 It is possible that this did happen somewhere in region 8 as represented by the three seventh to eighth century regional wares Verhoeven identified (Verhoeven 1993). However, in light of their limited distribution they must be considered anomalous in relation to general trends. The production of Vorgebirge inspired pottery at Beerse is not a good example because no evidence of production in a Merovingian tradition was found at the sites. Furthermore, the site is situated in an area where wheel-turned Merovingian style pottery played no role of significance in household assemblages.

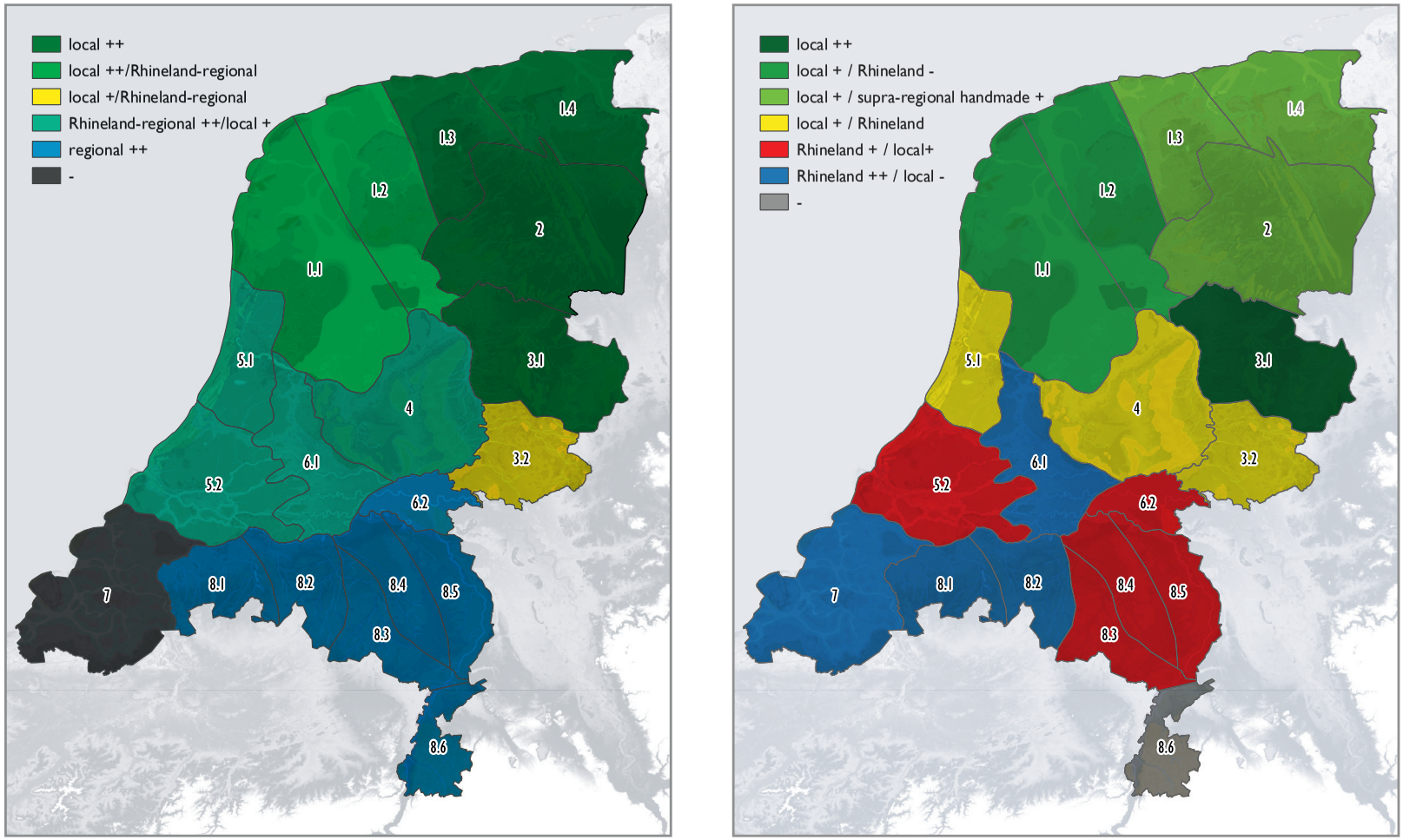

Fig. 7.3a/b Indication of zones that were similar in terms of ceramic profile on sites in the latter part of the seventh and start of the eighth century, and the late eighth and ninth century respectively. The colours used in both maps correspond in terms of the relative importance of wheel-turned and handmade pottery in site assemblages.

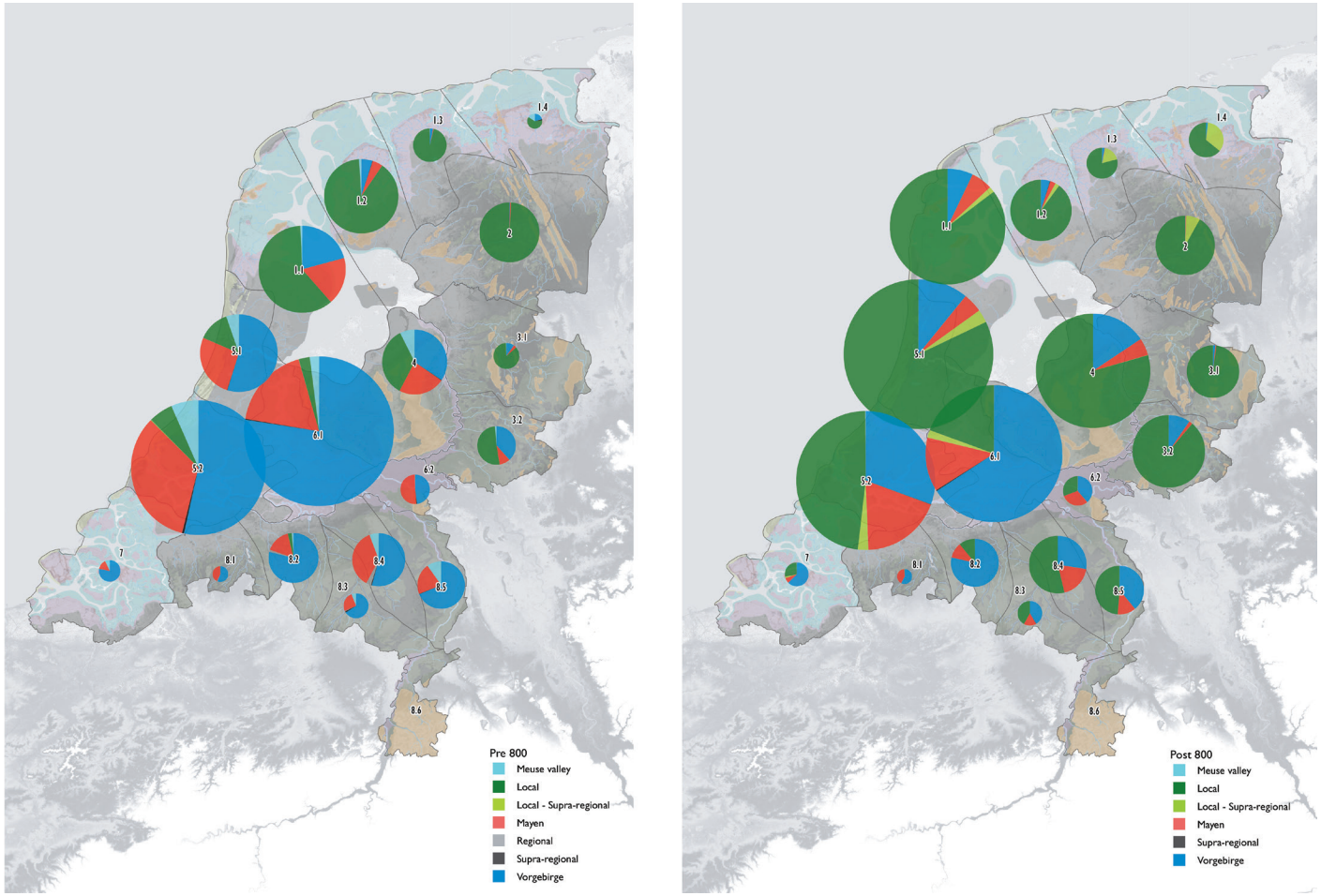

Fig. 7.4a/b Proportion of sherds per source area for each subregion. The size of the charts is relative to the total number of sherds in the analysis. Sherds that could not be assigned to either before or after 800 have been added to both. Therefore the maps show the trends present in the data rather than exact representations of ceramic assemblages in each period.

Perhaps the regional producers were simply unable to match the specific qualities of the Rhinish globular pot, such as its low porosity. Even so, the complete disappearance of a regional pottery tradition in this way is hardly seen elsewhere in northwestern Europe in our period. Some thoughts on how the transition may have taken shape will be presented in the following chapter.

Fourth, the observed changes in vessel morphology also raise the question why they changed in the first place? The shift from the relatively open *Wölbandtopf* to more closed globular vessels must have had some influence on the preparation of food.[65] In this case it is not so important where the globular shaped pot originated because both the wheel-turned and handmade variety can be seen as indicative of broader changes in the use of ceramics. A tendency toward more rounded vessels has also been identified in areas of France even though they often did not actually develop a rounded or lenticular base until the second half of the ninth century.[66] The disappearance of biconical pots can be taken as a sign that changes in ceramics in the late seventh and early eighth century were related to wider developments. The disparity between the presence of biconical pots in cemeteries and settlements has often been observed.[67] They are a common feature of grave furnishings but only make up a fraction of settlement finds. This suggest the vessel type was important in framing the burial rite and it may have had a similar function in other contexts as well.[68] In such situations the pots themselves did not necessarily act as a symbol in the sense of being representational, but provided cues as to the ritual nature of an event. The abandonment of the use of biconical pots, both in burials and households, is an indication that changes in household assemblages in the seventh and eighth century were linked to more general developments in the contexts in which ceramic vessels were used and associated with.

In addition the colour spectrum of wheel-turned vessels changed in the course of the later seventh and early eighth century. Ceramics in a Merovingian tradition were either produced in red or grey tones. Ethnographic research provides evidence that the colour of vessels can be associated with specific contexts, including that of exchange.[69] More generally, the morphological qualities of pots may be associated with (the preparation of) particular foodstuffs. This in turn can be connected to notions of purity and contamination. That ideas about contamination involving containers and cooking vessels existed in the Early Middle Ages, at least amongst the clergy, can be confirmed through textual sources.[70]

Products from the Vorgebirge added white and yellow vessels to household assemblages and these would have to be fitted in to existing categorisations. Mayen pottery was generally either reddish or (dark) grey so they may not have given much issue. For handmade pottery it is more difficult to tell whether an attempt was made to produce separate oxidising and reducing groups. Their firing process would have been difficult to control leading to vessels with both oxidising and reducing patches. For the people using the pots the difference between a red and a grey vessel might have been obvious. Equally it is possible that no distinction was made and all examples were seen as either oxidising or reducing, no matter how patchy the pots were. The perception of colour is not absolute and even the white/yellow wares from the Vorgebirge could have been incorporated into household assemblages without much problem. The point is that changes in the physical qualities of

65 Vroom 2009.
66 See section on French early medieval ceramics above.
67 To a lesser extent this is true for carinated dishes as well.
68 Miller 1985, 133-140, 158, 181.
69 Miller 1985, 142-148.
70 Bonnassie 1989, 1036-1039; Meens 1995, 7-16; Effros 2003b, 221-226.

vessels are more than just a matter of taste or fashion. Especially the kind of developments we can see throughout the seventh to ninth century (and probably the tenth century as well) are connected to and indicative of broader changes in the Carolingian world.

Fifth, Badorf and Mayen became the dominant source of wheel-turned ceramics. As observed above this is a comparatively unique situation in northwestern Europe at the time. Only region 8 may have still had some degree of regional production, but even that seems to have been inspired entirely by Rhineland wares. At Mayen a relatively varied corpus of vessel types was drastically reduced at some point during the eighth century, overwhelmingly replaced by globular pots. The finds from various sites in our research area indicate that the Vorgebirge was quick to follow. However, the Vorgebirge production centres added vessel types with a specific function for storage and pouring in the late eighth or early ninth century. The fact that Vorgebirge wares are often more numerous on sites in our research area can be argued to be related to the introduction of these new vessel types.[71] Some (parts of) regions have relatively high proportions of Vorgebirge pottery in relation to Mayen. On the one hand these may be areas where transport routes offered better access for Vorgebirge wares than Mayen products. On the other hand it could also be an indication that what was mainly acquired by the inhabitants of those areas were storage and pouring vessels rather than wheel-turned cooking pots. Certainly by the start of the tenth century the Vorgebirge kilns were producing mainly storage and pouring vessels and limited amounts of globular pots.[72] The Mayen pottery centre continued to manufacture ceramics almost continually into modern times but it had no significance for the supply of pottery in our region after the middle of the tenth century, probably already by the start of the century. In addition, it is mainly Vorgebirge pottery which is found in England and Scandinavia, eighth and ninth century Mayen wares are extremely uncommon beyond the confines of the Carolingian world. The finds of Vorgebirge ceramics from English and Scandinavian sites are similar to the regions in our research area where wheel-turned pottery is less common, in that they mainly consist of storage and pouring vessels.

The decline in the importance of imported cooking vessels can be seen on sites with a comparatively late assemblage for our period. The sites in region 7 generally have high proportions of storage and pouring vessels and few imported globular pots. The earliest excavated remains from three of the four inventoried sites in the region can be dated to the second half of the ninth century. At Deventer, another site for which most features date from the second half of the ninth century or later, there is still a reasonable proportion of globular pots while at Tiel hardly any have been found. Neither site can be considered a rural settlement and therefore may not be representative for developments on the sites we are interested in. However, the evidence from these sites suggests the availability of wheel-turned globular pots quickly declined at the end of the ninth century.

Finally, there is a number of observations related to specific vessel types or fabrics which highlight possible affiliations between the inhabitants of regions or how and in what areas goods may have travelled. The distribution of handmade shell-tempered ware is a prime example. They occur mostly on sites along the entire coast and the central Dutch river area. However, the fabric also occurs at sites in region 4 in low numbers and in the very north of region 2, adjacent to region 1. It suggests these two areas were connected to the same exchange networks or were to some degree part of the same cultural sphere as the riverine and coastal areas.

71 See chapter 4 section 4.7.4.
72 Sanke 2002, 207-209.

This 'coastal' distribution is countered by an area in the east of the research area where handmade bowls (type HIV) made up considerable proportions of site assemblages. The two areas are not entirely mutually exclusive, but they do indicate that despite the superficial similarity in terms of dominance of locally produced pots, they comprised two different regions as far as ceramic traditions are concerned. These differences are not simply a reflection of divergent tastes, but most likely point to differences in cultural practises regarding the preparation and consumption of food.

In region 8 the differences between the east and west are not only apparent in the timing of the introduction of locally or regionally produced handmade *Kugeltöpfe*, but also in the variability of vessel types and the provenance of pottery. Generally speaking sites in the east of the region have a greater variability of vessel types, in particular the early Rhineland types. Also, Meuse-valley pots have been found more often in the east than the west of the region. These differences may indicate the two areas were supplied via different routes or through other contacts.

7.2 Metal artefacts

It is more difficult to make inferences about how metal artefacts were distributed because we often do not know for certain where they were made. Given the frequent finds related to iron working on rural sites it is likely many iron utensils were made either on site or exchanged over short distances. The iron itself could have largely, if not completely been sourced within the research area, but current evidence suggests that did not happen in all regions. No clear evidence for iron production in the Early Middle Ages has been found in regions along the coast. At the same time sites in that area were found to contain relatively high numbers of iron artefacts, and traces of iron working have been discovered at a number of sites dated between the sixth and ninth century.[73] Clear evidence for iron production and working is lacking in region 2. Therefore, it is possible that part of surplus production in regions 3, 4 and 8 and perhaps 6, was channelled towards areas where production did not take place.

It was difficult to estimate the degree of surplus production of iron in several regions due to the nature of the evidence. Iron production was generally found to take place outside settlements, sometimes on their fringes but also at greater distances near the sources of raw materials. Therefore, it is not easy to get an idea of the extent of production. It may well have been a seasonal activity undertaken by people who had the technological know-how to complete the process successfully, but who mainly saw themselves as farmers. However, the possibility of professional iron producers, by which are meant individuals who mainly relied on the production and perhaps working of iron to make a living, cannot be ruled out. If they existed anywhere in our research area the Veluwe would be the most likely candidate. The manner in which the forest needed to be managed in order to sustain production over several centuries at least implies that the manufacturing of iron was important enough to encourage communal planning. The ice-pushed ridges where production took place were an agriculturally marginal area which nonetheless saw considerable intensification of habitation between the seventh and tenth century. In that sense it does not really matter whether iron production was proportionally the main source of income or not for communities on the Veluwe, because without it habitation would probably not have been sustainable at the level it was at Kootwijk or Uddel. If this was indeed the case it means supplies from outside the region were a necessity and required regular exchanges.

73 For the sixth and seventh century see Dijkstra 2011b, 166.

As far as the wider northwest European context of iron production and working is concerned, evidence from Britain and France suggests very similar circumstances existed there. In Britain there are indications that iron production started to gain pace once more in the seventh century after a long period following the collapse of the Roman state for which no traces of production are available.[74] Iron-working on British settlements of the Early Middle Ages is widespread, both on rural and town sites.[75] The products of blacksmiths are generally thought to have been intended for local use.[76] Similarly, in northern France iron-working on settlements of the Early Middle Ages has been found to be widespread.[77] However, it is less clear what the intended outlet of the various sites was. Production of raw iron is believed to have increased in the ninth and tenth centuries, but was already taking place in the sixth and seventh centuries.[78] In Belgium slags related to production and working of iron have been discovered in two early medieval wells in Nijlen in the province of Antwerp.[79]

There is very little direct evidence for working of copper-alloys in the eighth and ninth century on sites in the research area. Sites in the central Dutch river area, around the mouth of the Rhine and also Wijnaldum in the west of Friesland have provided traces of copper-alloy casting and working of precious metals in the sixth to early eighth century.[80] The same is true for sites in the Middle Meuse valley.[81] However, none of those or neighbouring sites have yielded similar traces dating to the later eighth and ninth century. Research on the composition of copper-alloy brooches suggests our period saw a change in the organisation of production.[82] The composition and manufacture of copper-alloy brooches became more standardised suggesting a stricter control over raw materials through control of supply and more centralised production.

The overall distribution of the eighth and ninth century ansate brooches found on settlements in our research area shows that they were also relatively common in in the west of Belgium and France, England and Scandinavia. The similarities between certain types, particularly those with three-fingered terminals, across these regions indicate a degree of shared visual vocabulary. The first important group of ansate brooches in the research area, Thörle's group XII, is heterogeneous in both shape and distribution (fig. 7.5). They are particularly abundant among the finds from Domburg and the number of variants is considerable there too. In our research area the type has mostly been discovered in the central Dutch river area and along the coast. However, they do occur in inland regions, in Drenthe (regions 2) and the south (region 8) within the research area and outside it also in Belgium and Northern France. A small number of the type has also been found in England, but there a regionally specific type dominated, particularly in Norfolk and Suffolk.[83] This English type, identified as East Harling-type, has thus far not been discovered on the continent.

74 Birch 2011, 6; Fleming 2012, 30. However, Birch believes iron may well have been produced in Britain in the fifth and sixth centuries, but that the production sites were located in areas where excavation rarely take place.
75 Birch 2011, 7-8.
76 Hamerow 2002, 189-190.
77 Peytremann 2003, 349.
78 Leroy et al. 2000, 20; Peytremann 2003, 349.
79 Bourgeois et al. 2015, 20-24.
80 Dijkstra 2011b, 166; Tulp 1997, 53-59; Kerkhoven 2009, 243.
81 Dijkman 2013.
82 Roxburgh/Huisman/Van Os 2014, 26-28; Roxburgh/Huisman/Van Os 2016, 117-132.
83 The East Harling type, Thörle 2001, 187-188.

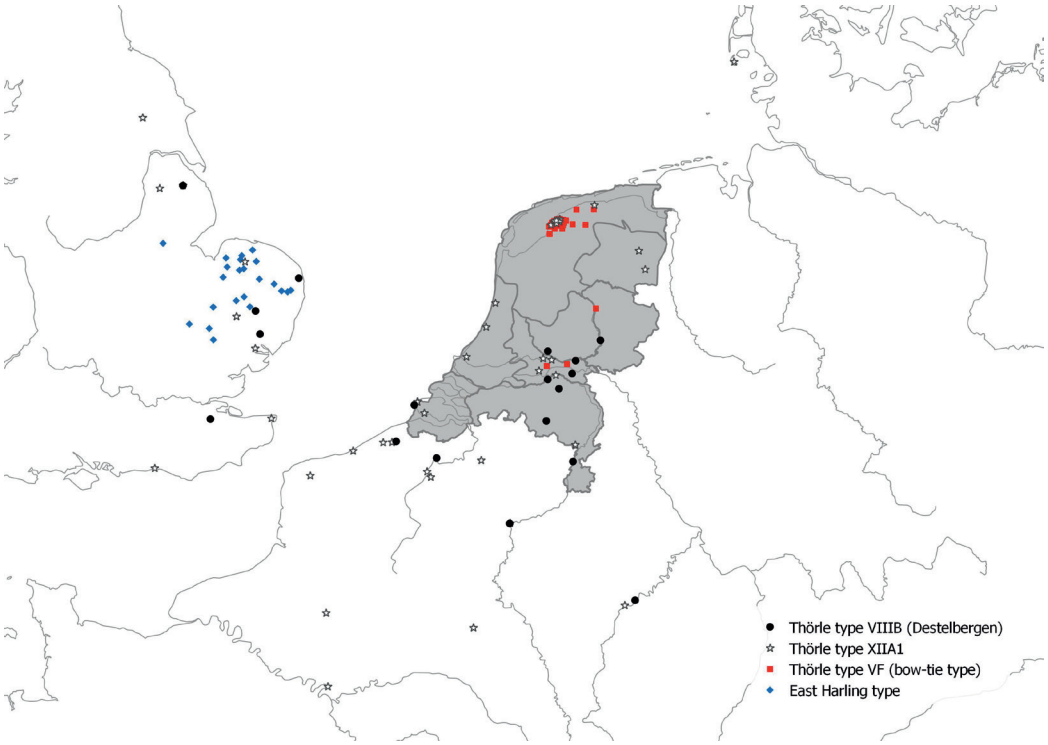

Fig. 7.5 Distribution of selected groups of ansate brooches that were particularly common in the North Sea area in the eighth and ninth centuries.

The ansate brooches in Bos' inventory of finds from the northern coastal area indicate that here something different was happening. The distribution of the brooches in the inventory reveals that two-thirds of findspots with such brooches in Friesland contained a bow-tie brooch and the proportion in Westergo alone is even higher (85%).[84] However, outside Westergo, in the rest of the northern coastal area, a slight majority of sites where ansate brooches have been found does not contain a bow-tie brooch. Furthermore, only three bow-tie brooches have been discovered outside the northern coast. In the Westergo area then, control of production and/or circulation seems a distinct possibility. Nonetheless, the visual style of the bow-tie brooch is very similar to type XII.

The restricted distribution of the East Harling-type in England, suggests that outside Friesland there may have been a similar organisation of production and distribution in the Norfolk/Suffolk area, but that elsewhere on the continent manufacture and/or circulation was arranged more loosely. Whether this is reflected in the composition of the brooches will require more detailed research than is currently available.

The third group of interest, ansate brooches of so-called 'Destelbergen'-type, is homogenous in terms of morphology but without a clear distribution area. To date they are the only eighth and ninth century ansate brooch type besides type XII to have been discovered in the south of the research area. This fits with the overall picture for this type on the continent with distribution limited to the west of the Rhine, a find in Zutphen being the only exception to date. Considering the large number of

84 Bos 2005/2006.

ansate brooches discovered in Friesland, the lack of Destelberg type brooches in the area underlines its predominantly southerly distribution. Two stray finds of Destelbergen type brooches have been discovered along the Rhine in the east of our riverine region (subr. 6.2) underlining the fact that in terms of material culture this area often shows more similarities with neighbouring inland areas than with the central Dutch River area.

Recent work on the composition of ansate and disc brooches, mainly from the northern coast of the Netherlands, has provided new evidence for understanding how production may have been organised and how this changed during the eighth and/or ninth century. It has identified an important shift from the use of leaded bronze and gunmetal for brooches dated to the fifth to eighth century, to leaded brass for brooches dated to the eighth to twelfth century.[85] The evidence also suggests that for the latter brooches the composition of the metal was far more consistent than for previous types. This change in composition has been linked to changes in supply and the case has been made for more controlled production of eighth to twelfth century brooches. Otherwise there may have been more mixing of alloys and consequently a less clear shift.

The other main brooch type in our period was the (enamelled) disc brooch. The interpretation of the distribution of the various types of disc brooch is problematic because it is not certain what their chronologies are. Many types seem to have been introduced toward the end of our period, but some may have been developed earlier, making comparison difficult. Frick's inventory shows that disc brooches are mainly found in Germany, the Netherlands, Britain and Scandinavia, and a small number in Belgium and France. The majority have been discovered north of Mainz and to the north and east of the Rhine. Belgium and France are problematic because of laws strictly forbidding metal detecting, meaning few finds are recorded. Each of Frick's main types and some of the subtypes show their own specific distribution over north-western Europe.

Disc brooches have been discovered more often in inland parts of the research area than ansate brooches but this could be a reflection of developments relevant to the late ninth and particularly the tenth century (fig. 7.6). The most common type of enamelled disc brooch is decorated with a cross motif. Their general distribution differs from ansate brooches, many having been found in northwestern Germany and Denmark (where ansate brooches rarely occur). They are also relatively well represented in the east of England and are in that sense quite unique because other disc brooches of the ninth and tenth century show more regional clustering. The brooch type shows considerable morphological and compositional consistency, implying centralised production and supra regional distribution.[86] This consistency has been interpreted as evidence that the brooches were produced at monastic sites and may have been distributed through reciprocal exchange networks between ecclesiastical institutions and their dependants. Equally they may have functioned in a way analogous to pilgrim badges. However, such an interpretation raises the question why enamelled disc brooches are rarely found in Belgium and northern France, at least as far as Frick's inventory suggests. Although this is difficult to determine without good overviews of finds, visiting French metal detectorists' websites[87] gives the impression that moulded or engraved decoration on disc brooches was more common than enamelled examples. Therefore there appears to have been a different tradition of disc brooch styles in northern France to that which prevailed nearer the Rhine. Whether this variation in styles also translates to a difference in control of production or circulation is impossible to assess at the moment.

85 Roxburgh/Huisman/Van Os 2014, 19-30.
86 Roxburgh/Huisman/Van Os 2016, 128-129.
87 Particularly the website www.fibulae88.net.

At the level of northwest Europe there is a large degree of overlap between the distribution of ansate brooches and disc brooches in general. Both continental ansate brooches and disc brooches with cross decoration have been found in reasonable numbers in Norfolk, Suffolk and Lincolnshire. Examples of ansate brooches three fingered-terminals have been found in the same areas, though mainly in regional variants. On the whole however, disc brooches have a much wider distribution. Particularly in the west and north of Germany far more disc brooches have been found and the same is true for southern Scandinavia.[88] Interestingly, while relatively high amounts of cross decorated brooches and brooches with central cloison have been discovered in Denmark, apparently no saints brooches and very few pseudo coin brooches have been recovered. This may point to a later introduction of disc brooches in these parts, though regional preference may equally be the reason.

Study of early medieval brooches shows great promise for identifying regional variability and how regions might have been connected to other areas. However, in order to do so, research that focusses on more than just cataloguing and categorising is required, such as the investigation conducted on the physical and technical properties of disc brooches in relation to wider social developments.[89] What we can say is that the number of producers of copper-alloy artefacts in the research area declined in the late seventh or eighth century, and combined with the data from compositional analysis this leads to the conclusion that manufacture was more centralised in the ninth century than before. Where manufacture took place and how much more centralised it was is less clear, just as it is not certain if this was a development that took place everywhere in the Carolingian world.[90]

The evidence on coinage presented in chapter 5 suggests that sceattas, particularly the younger types, and Carolingian denarii up to and including those struck during the reign of Charlemagne, mainly circulated in the same specific parts of the research area, the central Dutch river area and western Friesland. Sceattas and denarii struck up till 822 have hardly been discovered outside those two parts of the research area. The picture changes somewhat with the introduction of Louis the Pious' *Christiana religio* issue. These have been found in every region including parts that have yielded very few coin finds from the Middle Ages in general. However, comparison with the distribution of coins from other periods also indicates the dispersal of coinage remained quite limited, especially further away from the Rhine and coast. A similar level of dispersal may have been maintained to an extent after 840 but there seems to have been a reduction to some degree and a shift in importance from the Oude Rijn to the Waal river.

The observed developments are broadly comparable to what can be concluded on the basis of Carolingian single coin finds from the continent as a whole.[91] They suggest there was a steady increase in Carolingian coinage from Pippin III up to Louis the Pious' reign. After a peak between roughly 820 and 840 there is a decline in coins struck after 840, but there are still more finds than before 820. As Coupland indicates, it is important to investigate how the availability of coinage developed at a regional level, but the overall picture helps qualify the one observed in our research area. As was explained in section 5.3.4 the figures represent rate of loss and are only an indirect

88 See as an example Frick 1992, 427, Karte 1; Baastrup 2009, 517-528.
89 Roxburgh/Huisman/Van Os 2016. Both Frick and Thörle offer some thoughts on the cultural context of the brooches they studied, mainly in relation to how they were worn, but in neither case was it the primary aim of the study.
90 Outside our research area disc brooches with enamelled cross are mainly distributed in northwest Germany and Denmark (see Frick 1992 and Baastrup 2013). Not very many have been discovered in more southerly regions although this may be related to more restrictive laws on metal detecting. A few examples discovered at Domburg were found to have a composition more similar to that used for brooches in a Merovingian tradition, implying there was more than one mode of sourcing raw materials in the Carolingian world (Huisman/Os/Roxburgh 2016, 125).
91 Coupland 2010, 287-317; Coupland 2014b, 273-275.

measure of circulation and by extension the level of monetisation. There is a longstanding debate on how monetised the Carolingian economy was and there is no point reproducing it in detail here.[92] As one might imagine there are extreme views either arguing for high or low levels of coin circulation and monetisation of exchange. Coupland concludes that it depends on the chronological period and geographical area that is under investigation how monetised the economy will have been in the Carolingian period.

Even within a specific area and time frame the role of coin in exchange could have varied depending on the context. Exchanges within an international framework may have had a higher frequency of transactions involving coin than exchanges at regional fairs and transactions between inhabitants of neighbouring settlements. In the international sphere coin would have been used as currency. In the regional or local exchanges coinage may also have played a role, only now as a measure of value. Skre points out that communities can use several commodities as unit of measure to facilitate exchange of goods without recourse to coins, either as currency or a measure of value.[93] Moreover, several commodities can act as money simultaneously. It seems highly unlikely that coinage was the only currency or measure of value in rural areas of our research area considering the limited distribution even of Louis the Pious' *Christiana religio* issue. Therefore, a more interesting question than the degree to which coinage was used (as the level of monetisation would generally be defined) is to what extent rural dwellers in various regions were part of exchange networks in which coinage played a role? A related question is to what extent the range of transactions they were part of were monetised, in other words exchanges in which the object of the transaction was to simply acquire goods rather than establish and reproduce social ties, and for which a measure of value (money) was necessary?

7.3 Stone artefacts

The raw material for most stone tools on rural sites such as sharpening tools will likely have been sourced locally. The main exception is millstones which virtually without exception came from quarries near Mayen in the German Eifel region. Analysis of the distribution of millstone fragments, taking into account limitations posed by excavation and publication conditions, shows that every identified Carolingian rural settlement in the research area had access to Eifel millstones. Evidence from sixth and seventh century sites indicate this was nothing new, and millstones from the Eifel continued to be imported for centuries after our period. Perhaps the most striking aspect of their distribution-pattern is that it is much wider than that of Mayen ceramics. This is true for our research area, but also for Northern Germany, England and Denmark.[94] In each of those areas millstone fragments are discovered regularly but eighth and ninth century Mayen pottery is uncommon, if not absent.

92 For a brief overview see Coupland 2014b, 259-262.
93 Skre 2013, 75-84.
94 For overviews of Mayen millstones in northwestern Europe see Steuer 1987, 144; Parkhouse 1997, 101.

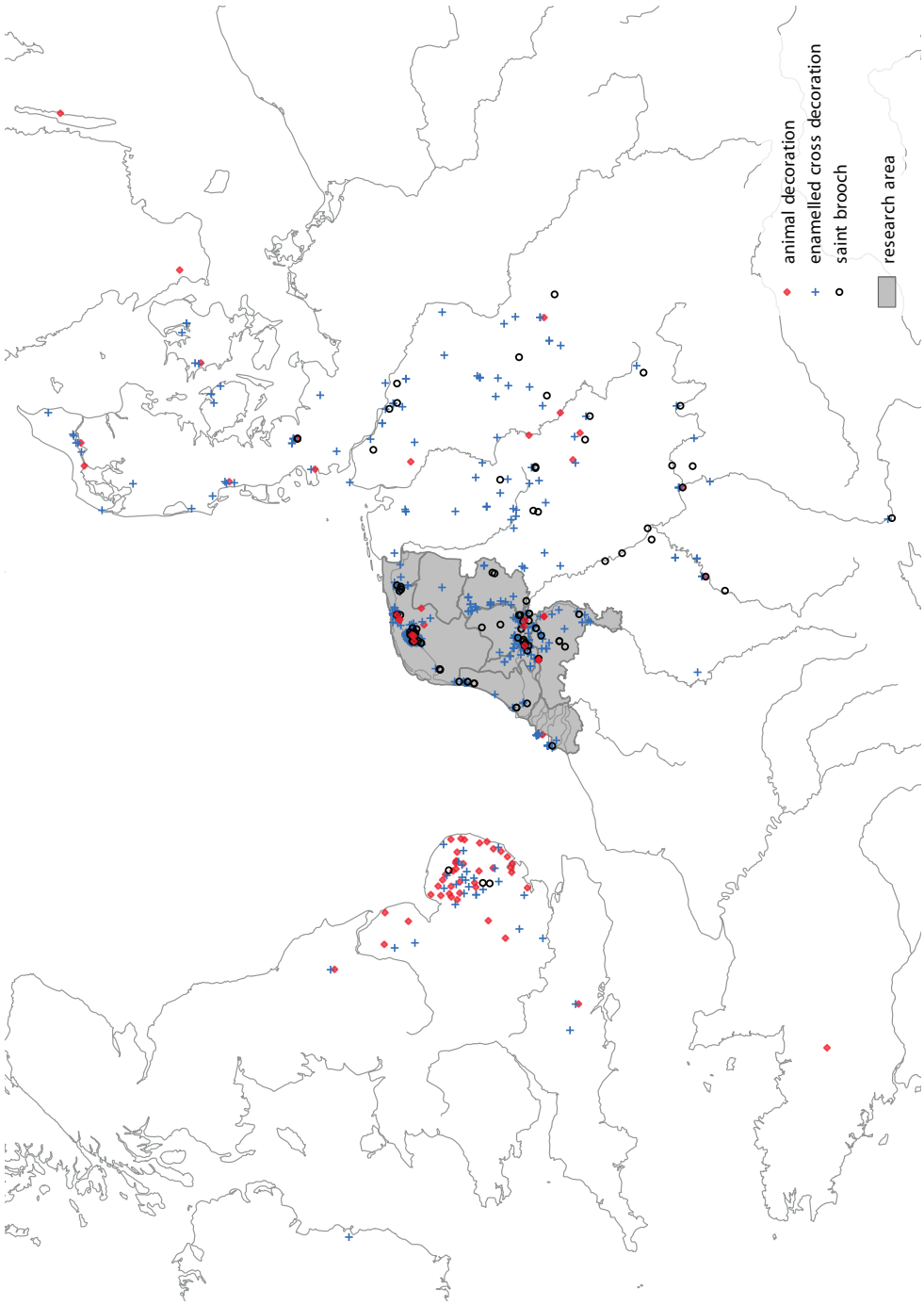

Fig. 7.6 Distributions of enamelled cross, saint and animal decorated disc-brooches.

7.4 Conclusion

The main point this chapter illustrates is that distinct groups of imported artefacts have differing distributions to one another, both within our research area and also in neighbouring areas. Developments in ceramics share broad similarities throughout the northwest of the Carolingian world in the seventh to ninth centuries but there remained significant regional variability. Sites in the north, west, south and east of our research area each have their own characteristics in terms of pottery, but all share the presence of millstones. Some brooch types are limited to specific regions while the distribution of others transcend political and to an extent cultural boundaries. Use of coinage appears to have been limited in rural areas in our parts but they occur relatively often in some areas where other imports are rare. Overall the evidence implies it is not possible to extrapolate the functioning of exchange systems from any single group of material culture. Equally, the nature of the differences between regions suggests it is unlikely they were generated through a single dominant mechanism. What mechanisms may have been at play is considered in the following chapter.