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The ceramisation of the Low Countries, seen as the result of gender-specific processes of communication

Leendert P. Louwe Kooijmans

ABSTRACT

Pottery fabrication was adopted around 5000 cal BC in the Lower Rhine Area, in the first, technological stage of Neolithisation. The distinct native technology and style is explained as resulting from the indirect contacts in the female domain, as opposite to those of the adult male part of society. It was pottery as such, which became known through contacts with various Neolithic groups, not the process of production. The chosen technology was that of native coiled lipwork and matting.

KEYWORDS

Neolithisation, Early Neolithic pottery, gender archaeology.

1. NEOLITHISATION¹

The Neolithisation in the Lower Rhine Area has been the subject of a row of successive publications, describing the process in increasing resolution and coherence on the basis of the growing quantity and quality of basic data, from large-scale excavations to chance discoveries (Louwe Kooijmans 1998; Raemaekers 1999; Verhart 2000; Louwe Kooijmans 2005, 2007; Amkreutz in prep.). It is in its essence

the story of communication across a long lasting static frontier between the early agrarian communities on the loess soils in the south of the region and the indigenous foragers in the wide sandy plain to the north of it. Our knowledge of these northern communities is dominated by the rich evidence of the Rhine delta settlements in the western part of the plain, which together with the archaeological near-invisibility of upland occupation generates a problem of its representativeness in a wider respect. There is, however, no discussion about the basic character of the process. It was no short-lived package deal but a gradual adoption of the Neolithic assets, with the technological innovations first, next those in subsistence and at last those in the social organisation. So the polished axe technology came first with the acquisition of LBK adzes, soon followed around 5000 cal BC by the native production of pottery, then some centuries later (at the last around 4500) by live-stock (cattle, pig, sheep and goat all four at a time) and at last the crops (emmer wheat (*Triticum dicoccon*) and naked barley (*Hordeum vulgare* var. *nudum*)) sometime between 4200 and 4000 cal BC (Louwe Kooijmans 2007; Out 2009). Good evidence for the structuration of settlements according to Neolithic principles, *i.e.* creating a domestic space, separated from the 'wild' surroundings, seems to be a rather late stage and is not earlier attested than the fenced-in Schipluiden site, *c.* 3600 cal BC (Louwe Kooijmans & Jongste 2006). The discussion about the time span involved seems not so much to focus on the process or introduction dates, but mainly on the definition of its end (*cf.* Raemaekers 2003 for a 'short chronology'), that is the subjective assessment of the stage when the Neolithisation should be considered as accomplished. If we exclusively use the Zvelebil & Rowley Conwy (1984; Zvelebil 1986) criterion of the role of animal husbandry, then the substitution phase (with domestic animals between 5

1. This is a reworked version of a paper presented at the symposium "Earliest Pottery in the Baltic" in Schleswig, October 20-21, 2007, organised by Friedrich Lütz and Thomas Terberger, to be published in *Berichte der Römisch-Germanischen Kommission* (Louwe Kooijmans in press). The section 'ceramic evidence' of that paper has been skipped in view of the detailed reviews by several authors in this volume; a new section on communication has been added. The final paragraph has hardly been changed. Major difference is the adjusted date and more prominent role attributed to the assemblages related to La Hoguette, north of the loess zone.

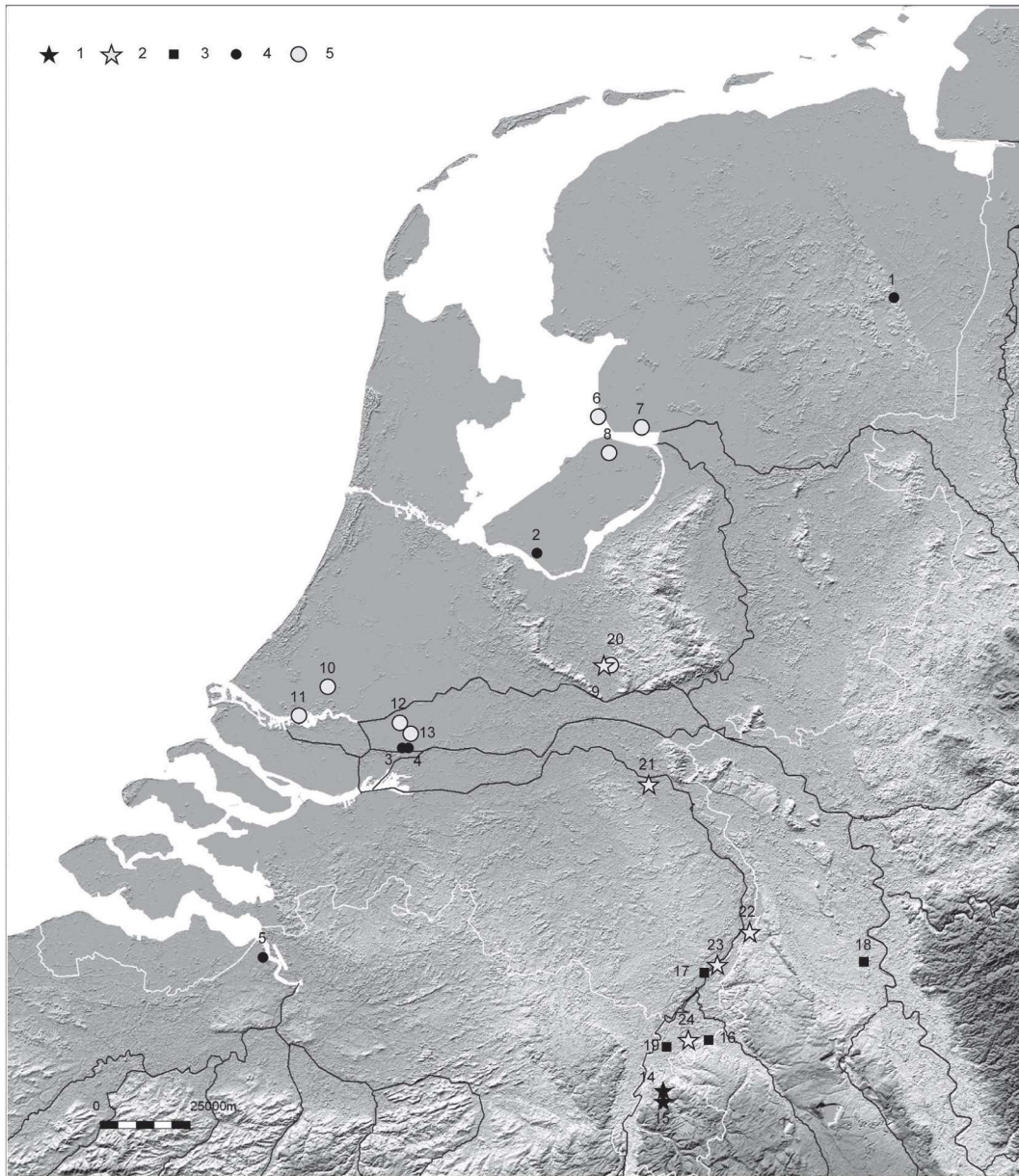


Figure 1 Location map of sites, mentioned in the text.

Symbols: 1. La Hogue, 2 so-called *Begleitkeramik*, 3 LBK and Limburg beyond the loess, 4 Early Swifterbant 5000-4600 cal BC, 5 'classical' Swifterbant c. 4000 cal BC.

Sites:

- | | | | |
|--------------------------------|-----------------------|--------------------------|---------------------------|
| 1 Bronneger | 7 P14 (Schokland) | 13 Hazendonk | 19 Montfort |
| 2 Hoge Vaart | 8 Swifterbant-cluster | 14 Geleen | 20 Ede <i>Frankeneng</i> |
| 3 Hardinxveld <i>De Bruin</i> | 9 Ede <i>Rietkamp</i> | 15 Sweikhuizen | 21 Gassel |
| 4 Hardinxveld <i>Polderweg</i> | 10 Bergschenhoek | 16 Echt <i>Annendaal</i> | 22 Venlo <i>Ossenberg</i> |
| 5 Doel <i>Deurganckdok</i> | 11 Schiedam | 17 Kesseleik | 23 Kessel |
| 6 Urk | 12 Brandwijk | 18 Veen Kr. Moers | 24 Posterholt |

and 50% of identified bones) would last shorter than 4450–4100 cal BC. The time span would, however, be the full fifth millennium if we would consider the adoption of animal husbandry just as a partial process of the total techno-economical transition. If we would include a considerable social change as well the time lap would be even five centuries more.

2. COMMUNICATION

This all makes one think about the processes involved, about communication and knowledge transfer. This has been done earlier (Louwe Kooijmans 1993; Vanmontfort 2008; Verhart 2009), but we have to confess that we do not know so much about the ways of communication between the southern and northern communities. All that remains is the material reflection of contacts, whereas communication is a matter of interaction between people including specific roles of men and women in both the ‘donor’ and the ‘receiving’ communities, the most probable division of tasks, the native knowledge and technology systems and the mobility of individuals, to better understand the developments in this specific case.

North-south contacts in the preceding Later Mesolithic are documented by the distribution of the well-known, *Grès Quartzitique de Wommersom* (GQW; Gendel 1982). This is a singular fine-grained quartzite, which was very well suited for the production of the so-called Montbani blades, regular blades with parallel ribs and one retouched side, themselves the blanks for the production of all types of trapezes, characteristic for this period. It was distributed from its single primary source near Tienen (Belgium) all over the southern Netherlands. The core distribution up till c. 60 km will have mainly resulted from the mobility of the people involved, but the incidental wider distribution, to the north as far as the sites of Hardinxveld and Hoge Vaart, will have been the result of exchange. The major rivers – especially the Meuse – seem to have been a boundary for its distribution, as it was already a boundary between two distinct types of microlith associations in the Boreal period, the ‘Rhine Basin Group’ in the south and the ‘Boreal Group’ in the north.

The material evidence of contacts of the new Bandkeramik settlers of southern Limburg with their neighbours to the north and west is of a modest extent and intensity.

First, there is zone of c. 30 km to the north of the loess with relatively frequent finds and rather ephemeral sites, producing basic domestic flint inventories together with fragments of pottery (Louwe Kooijmans 1993, fig. 11; Amkreutz *et al.* 2009). Examples are the Limburg pottery site of Kesseleik at 30 km and the LBK-Rössen sites of Echt-Annendaal and Veen (Kr. Moers) in the German Rhineland at resp. 15 and 25 km (Modderman 1974; Brounen 1985; Hinz 1974).² This 30 km zone is interpreted as a modest expansion of LBK ‘home range’ over the coversand landscape to the north of the loess, especially during the final stages of the LBK, with cattle herding as the major drive, in view of the restricted ecological possibilities within the loess zone (Bakels 1978, 141). This would fit very well with the increased population and the increased need for suitable grazing in that stage on the one hand, and the final LBK dating evidence of these sites on the other hand.

Some tens of typical flint arrowheads have been found all over the Limburg Meuse Valley up to over 100 km distance from the LBK cluster of the Graetheide Plateau. The most plausible explanation is that they reflect hunting activities, but it is impossible to tell whether the hunters were the Bandkeramik people themselves or indigenous groups, who had in someway acquired Bandkeramik hunting equipment. After the inventory was made (1987) a discussion about the possible Late Mesolithic origins of these typical asymmetric points arose, making a scrutiny of the selected arrowheads advisable. The very characteristic LBK arrowhead from Hardinxveld *Polderweg*, made on a Rijckholt type flint blade, with inverse retouch at its base, as it should be and securely dated to 5500–5300 cal BC demonstrates, however, that these far reaching contacts are real and started at an early stage (Van Gijn *et al.* 2001a; De Grooth 2008 for a detailed review of the evidence).

There is at last a thin but wide spread of LBK adzes all over the northern plain (Verhart 2000; in prep.). These adzes are the most intriguing. The idea

2. The composition of the relatively rich find complex of Montfort II (Newell 1970), comprising amongst others four small adzes, should, however, not be considered reliable (pers. comm. L.B.M. Verhart).

that they are male prestigious objects in LBK society is based on their predominant occurrence in adult male graves. It is assumed for good reasons that the adzes were subject to exchange in a social network of those LBK adult males, since they were made from 'exotic' – at least non-local – stone, like amphibolite, basalt and (in the later phases) lydite/phtanite and since no production refuse or blanks have been found in the Limburg and Rhineland settlements. It is remarkable that these valued and prestigious implements in some process found their way outside the LBK society itself. One option is that they reflect LBK burials of hunters who perished during a hunting party, or intentional depositions, like these are known from the LBK territory itself (Bakels & Hendriks 1999). The most plausible and generally accepted explanation is, however, that the LBK exchange networks were extended to the north, to include adult males of the 'other party', the hunter-gatherers of the northern plain. As such the adzes are the first stage of the much wider and more intensive distribution of the later perforated implements of the Großgartach and Rössen cultures. It is unlikely that these highly valued objects were simply lost or deposited as a burial gift. Burials from this period are very rare in the northern plain and those known lack any grave gifts. The LBK adzes will have been intentionally deposited in the landscape, just like their successors, the Rössen wedges.

An important document is the first phase of the Hardinxveld *Polderweg* site in the river area, 110 km from the loess margin and dated to the period around 5400 cal BC (Louwe Kooijmans 2001a; new calibrations in Mol & Van Zijverden 2007). There are quite a few undeniable southern links in the rich assemblage: a few GQW flakes and blades, the LBK point mentioned above, some small pieces of pyrite and a series of large angular stones, one of which a Rijckholt type flint precore. This site clearly shows us that the Late Mesolithic north-south connections continued into the contact period and covered the South Limburg region and probably included the LBK communities. The rather bulky raw stone material is the main reason to assume expeditions to the south, with water transport along the Limburg Meuse corridor as an interesting option, be it that the canoe evidence so far seems to be suited better to local than to long distance use (Louwe Kooijmans & Verhart 2007).

LBK pottery is as yet not found to the north of the 30 km zone, mentioned above, which implies that domestic activities were restricted to that zone and that the mechanism behind the spread of the arrowheads and adzes indeed should be viewed as reflecting individual mobility. There are, however, several small surface complexes of pottery beyond the 30-km-zone identified as so-called *Begleitkeramik*. They suggest that not only LBK and Limburg played a part in the communication, but a third party as well, especially since finds have been made as far north as the Veluwe district in the central Netherlands (Brounen & Hauzeur this volume). The attribution to La Hoguette does, however, not automatically imply an earlier date (*i.e.* pre-LBK). First, typical La Hoguette pottery was not only found isolated at Sweikhuizen (Modderman 1987) but in later LBK context as well at Geleen *Nijssenstraat*, Liège *Place-Saint-Lambert* and Ittervoort *Damszand* (Brounen & Vromen 1990; Van der Sloot *et al.* 2003; Brounen *et al.* this volume). Second, the decorative motifs – especially the remarkable so-called sun-motif on one of the Ede *Frankeneng* pots (Brounen *et al.* this volume) – have their counterparts in Blicquy-complexes of Hainaut (Constantin & Demarez 1984) and the final LBK-complex of Maastricht *Klinkers* (Theunissen 1990) which altogether give dates around 4900 cal BC. Applying the same argument as for the ceramic LBK sites within the 30-km-zone would imply that these modest pottery scatters far north of the loess would reflect the presence of a community with a distinct ceramic tradition, rooted in La Hoguette. It would have had hardly any contact with the LBK of the loess zone (in contrast to the Limburg tradition) but shows a northward expansion as far as the central Netherlands. It is this ceramic tradition, which most directly may have inspired the indigenous hunter-gatherers, in addition to the hearsay on the LBK pots by hunters returning from southern expeditions. We must, however, realize that this 'explanation' would be valid for the Lower Rhine Area only and not hold for the very similar early pottery styles farther to the east of the North European Plain. The most intriguing evidence for direct inspiration are the remains of a few pots with strong Blicquy (bone temper and decoration) and Großgartach (double perforated lugs) affinities in phase 2 of Hardinxveld *De Bruin* (Raemaekers 2001b), now dated to *c.* 5000 cal BC after revision of the calibration (Mol & van Zijverden

2007). How did these vessels travel so far north? Again water transport along the Meuse corridor is an attractive option. It led exactly to a region where both traditions met: Blicquy in the Hesbaye, Großgartach in the Aldenhovener Platte region.

The material evidence of contact is found exclusively in the northern spheres. There are no archaeological traces of northern contacts documented in LBK settlement context. It has been argued that the presumed Late Mesolithic ‘De Leien-Wartena industry’ has much in common with the LBK flint working tradition, but this has been refuted later with good arguments (Verhart 2000). The similarities are restricted to the less characteristic artefact types and the ‘DLW complexes’ in the Meuse Valley appeared to be Mesolithic-Michelsberg palimpsests. There are no Mesolithic elements in the LBK flint industry (which is the only domain on which we have information about both communities) and there are no microliths in LBK context. So one may wonder what went the other direction. It must have been something equally valuable as the adzes. One suggestion is: admission, *i.e.* permission to enter and make use of the ‘northern territories’. This would fit the model of peaceful contacts across a static frontier. Another option is the supply with perishable woodland products like fur, honey and ‘bush meat’. A third option is women. That would fit to the asymmetrical relation postulated by Zvelebil and his idea of hypergyny, that is the unidirectional marriage of hunter’s women into the farmer’s communities (Zvelebil 1998). That local people merged into the LBK population is documented by strontium analysis of human skeletal material from late LBK cemeteries in the Rhineland, but the process appears not to have been restricted to women (Price *et al.* 2001). Another argument is found in the occurrence of ‘atypically decorated pottery’ other than Limburg ware in some LBK contexts, especially the Geleen *Janskamperveld* site (Van de Velde this volume).

The north-south relations were intensified in post-LBK times, as is reflected by the denser and wider spread of the typical *hohe durchlochte Schuhleistenkeile* and *Breitkeile* of the Großgartach and Rössen cultures (Van der Waals 1972; Sherratt 1990; Verhart 2000; in prep.). The high density can be seen as related to a longer time span involved and optional an intensification of the practice of intentional deposition, but the distribution shows at any rate an in-

creased extent of the supposed exchange network. No such adzes or fragments were found at the Hardinxveld sites, but long flint blades and the presence of non-local pottery related to Blicquy and Großgartach document the continuation of the southern contacts at *De Bruin* phases 2 and 3, between 5000 and 4500 cal BC (Van Gijn *et al.* 2001b; Raemaekers 2001).

The northern communities became acquainted with the polished axe technology by the acquisition of the finished Danubian implements. They merged this knowledge with the existing tradition of pecking stone, as seen in the so-called *Geröllkeule* (‘pebble mace-heads’ with hour glass perforation), generating the *Walzenbeil* axe types and *Spitzhauen* (Verhart 2009; in prep.). The northern hunters may themselves not have observed or experienced the sawing and drilling that were essential techniques in the production of the shaft hole implements, although the rare failed preform for two adzes at Maastricht *Randwijck* shows that at least some of the adzes were made locally in the Dutch loess zone in Rössen times (Louwe Kooijmans 2005, fig. 12.7). Quite similarly, pottery as such was observed and perhaps even taken along, but less likely its production process.

3. CERAMISATION

Around 5000 cal BC various groups in the western part of the North European Plain started to make pottery in a distinct, simple native style, on which basis the ‘Swifterbant culture’ has been defined. The earliest pottery has been dated to a stage around 5000 cal BC at Hardinxveld *Polderweg* phase 2 (Mol & Van Zijverden 2007), and there are several complexes with dates in the early centuries of the fifth millennium: Hoge Vaart, Bronneger, Hardinxveld *De Bruin* and Doel *Deurganckdok* (Peeters this volume; Raemaekers & De Roever this volume; Crombé this volume). A parallel development took place in the western Baltic area. The ceramic phase of Danish Ertebølle pottery is generally dated from 4700 cal BC onward (Andersen 2008; this volume). The start of the Jarbock phase, the first ceramic phase in the Mecklenburg Baltic coastal region, around 4750 cal BC is synchronous with the start of the ceramic phase of Ertebølle. In recent years complexes with earlier dates, have been reported from the German Baltic coastal regions, especially Schlamersdorf (*c.*

sample	material	lab no.	BP date	$\delta^{13}\text{C}$	cal BC
Bronneger					
<i>Kroezena et al. 1991; Lanting 1992; Raemaekers 1999, 108</i>					
antler 1	antler	OxA-2909	5720 ± 90		4700-4400
pot	charred crust	OxA-2908	5890 ± 90		4900-4600
antler 2	antler	OxA-2910	5970 ± 90		5000-4700
mean			5860 ± 55		4850-4550
Ede-Rietkamp					
<i>Hulst 1993; Raemaekers 1999, 98</i>					
pottery	organic temper		6050 ± 110		5200-4600
Hoge Vaart, selection (3 of 23 dates)					
<i>Peeters & Hogestijn 2002; Peeters 2007, 338</i>					
92-S902, hearth (youngest date)	charcoal	UtC-4621	5710 ± 50	-25,5	4700-4450
49-S3, hearth	charcoal	UtC-4615	5810 ± 50	-23,5	4800-4550
192-S903, hearth (oldest date)	charcoal	UtC-4626	5976 ± 48	-26,3	5000-4700
Doel-Deurganckdok, zone B					
<i>Crombé et al. 2002, 2003; Bats et al. 2003</i>					
pottery	charred crust	KIA-12260	5890 ± 35	-28,03	4950-4750
pottery	charred crust	KIA-14339	5835 ± 35	-27,02	4800-4600
pottery, NW concentration	charred crust	KIA-20232	6015 ± 30	-25,21	5000-4800
hazelnut	charred shell	NZA-12076	5220 ± 55		4250-3950
Doel-Deurganckdok, zone J concentration C1					
<i>Bats et al. 2003</i>					
pottery	charred crust	KIA-20207	5900 ± 45	-26,08	4900-4700
pottery	charred crust	KIA-20233	5915 ± 45	-26,85	4900-4700
Hardinxveld-Polderweg, phase 2					
<i>Louwe Kooijmans & Mol 2001</i>					
3510, oak tree	dendro date	-	-	-	4972 ± 6
18-1-1, t.a.q.	macroremains	GrA-9800	5780 ± 50	-28,14	4800-4500
3026 pottery	charred crust	GrA-11829	6130 ± 50	-29,33	5250-4850
3288 pottery	charred crust	GrA-11841	6140 ± 50	-28,08	5250-4850
24038 human skull	human bone	GrA-11830	6170 ± 60	-24,32	5300-4950
11/783 macro remains	uncharred alder seeds	GrA-9802	6050 ± 50	-27,07	5050-4800
11/818 macro remains, t.p.q.	uncharred Cornus seeds	GrA-9798	6320 ± 50	-25,86	5400-5100
Hardinxveld-De Bruin					
<i>Mol & Louwe Kooijmans 2001</i>					
phase 2 (end)					
20.695 pottery	charred crust	GrA-13315	6070 ± 50	-28,17	5200-4800
20.696 pottery	charred crust	GrA-13313	6090 ± 50	-27,44	5200-4800
DB 3 macro remains	uncharred botanical	GrA-14864	5685 ± 50	-27,51	4700-4400
13.250 macro remains	uncharred botanical	GrA-13278	5730 ± 50	-28,33	4700-4450
phase 2					
20.693 pottery	charred crust	GrA-13318	6100 ± 50	-27,12	5200-4800
DB 4 macro remains	uncharred botanical	GrA-15034	6010 ± 55	-27,37	5000-4750
13.251 macro remains	uncharred botanical	GrA-13296	6050 ± 50	-26,52	5200-4800
DB 5 macro remains	uncharred botanical	GrA-14865	6120 ± 50	-24,23	5200-4900

THE CERAMISATION OF THE LOW COUNTRIES

sample	material	lab no.	BP date	$\delta^{13}\text{C}$	cal BC
phase 2 (start)					
DB 6 macro remains	uncharred botanical	GrA-12304	6170 ± 50	-25,00	5300-4950
Schokland P14 (6 oldest of 19 dates)					
<i>Lanting & Van der Plicht 1999/2000, 55-6; Peeters 2007, 338-9</i>					
pottery	charred crust	UtC-1916	5880 ± 70		4900-4600
pottery	charred crust	UtC-1922	5750 ± 70		4700-4500
pottery	charred crust	UtC-1915	5590 ± 70		4500-4350
pottery	charred crust	UtC-1927	5460 ± 60		4350-4250
pottery	charred crust	UtC-1919	5460 ± 60		4350-4250
pottery	charred crust	UtC-1928	5450 ± 50		4350-4250
Brandwijk L30					
<i>Raemaekers 1999, 201</i>					
Layer 30, dispersed fragments	charcoal	GrN-19073	5670 ± 45		4650-4350

Table 1 Available radiocarbon dates for the Swifterbant culture.

5200 cal BC). These dates are, however, still under discussion since they were measured on samples of charred crusts attached to pottery, which may not be reliable in view of the contribution of fresh water fish and as yet play no role in the periodisation (Hartz & Lübke 2004, esp. 126; Hartz, Lübke & Terberger 2007).

The adoption of pottery production is just one early step of the northern societies on the long road of becoming fully Neolithic. We may call this process the ‘ceramisation’ of the Late Mesolithic society, resulting in both areas in a final, ceramic Mesolithic: the early phase of the Swifterbant culture in the west and the last phase of the Ertebølle culture to the east.

It is considered no coincidence that the period concerned is exactly the phase in which the first agricultural communities spread over the loess zone to the south of the northern plain and developed contacts with their northern neighbours. In the case of a fully autochthonous process, there would be no obvious reason why these peoples would not have started with pottery earlier. The development of pottery and its use is by consequence seen as one aspect of the regional Neolithisation process, the transmission of knowledge and ideas from the farmers in the south to the hunter-gatherer societies in the north. In some way the knowledge of pottery making was introduced relatively early, several centuries before domestic animals and crops would change subsistence and it obviously was not only the technology of pot-

tery making that was transmitted, but, more fundamentally also a new mode of food preparation.

It is striking in this perspective that the early pots of the northern plain seemingly have not much in common with the presumed sources of inspiration, especially not with the ceramics of the *Bandkeramik* and the contemporary Limburg pottery, and only in some aspects (general shape and coiling) with La Hoguette and its *Begleitkeramik*. Detailed accounts on the individual assemblages are published in another context (Louwe Kooijmans in press) and in various contributions to this volume. I restrict myself here to the following concise descriptions.

Bandkeramik (LBK, 5300-4900 cal BC; cf. Modderman 1958-'59, 85, 105; 1988, 111)

LBK pottery is divided in fine and coarse ware. Basic form is the bowl, in the later phases with narrower neck. The fine ware is relatively small, thin-walled, polished and finely decorated. Colours range from dark to light. Temper is invisible. The coarse ware is large(r), thick-walled, with an irregular smooth surface, plain except occasional rows of fingertip impressions. Knob and band lugs are regular features. Colours are in general pale. Temper consists of crushed pottery, with occasional some sand or crushed stone. No coiling is visible, which suggests a construction form a single lump of clay or slabs, possibly in a hammer-and-anvil technique. Only

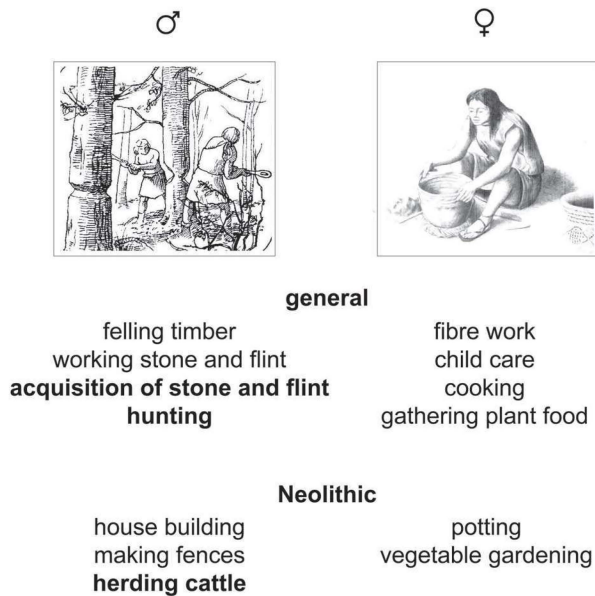


Figure 2 Division of some major tasks between men and women in the Mesolithic and Early Neolithic in the Lower Rhine Area, as suggested in this paper. Activities implying extra-territorial mobility indicated in bold. Vignettes after Nielsen 1981 (left) and Ruoff 1991 (right).

large vessels sometimes show joins between the upper part and the body of the pot.

La Hoguette and Limburg (5500-4900 cal BC; cf. Lüning *et al.* 1989; Modderman 1981)

La Hoguette and Limburg pottery have much in common, but both differ in almost all aspects from that of the LBK. The temper is heterogeneous, with all kinds of admixtures (fibres, chaff, sand, quartz), but most distinct is finely crushed burnt bone, which is, however, not always used. The pots are coil-built, often show 'defective' coils, but this is only occasionally visible at the fractures. The surface colour generally is a distinct and characteristic reddish brown, while the core of the walls are black. The surface is smooth and decorated in techniques and with motives, which are highly distinctive. La Hoguette: a horizontally arranged pattern of low wavy ribs with parallel rows of fine impressions, often with a bidentate instrument (*Doppelstichreihen*). Limburg: a vertically arranged pattern of panels filled with broad groove lines and spatula impressions. While ovoid forms with round to pointed-round bases are most characteristic for La

Hoguette, wide, round-based bowls are typical Limburg. Both often have thick, reinforced rim, made by turning down the lip at the inside, and incidentally knobs or perforated lugs (*Schnurösen*).

Early Swifterbant (5000-5400 cal BC; Raemaekers & De Roever this volume, Peeters this volume)

Early Swifterbant pottery is built of narrow coils, tempered with a variety of materials, like crushed stone or pottery and shortly cut plant fibres, but in some cases temper may be invisible as well. The walls are relatively thick (a mean of 10 mm) and have an uneven surface. Forms are generally S-profiled with rather low flaring rims, or ovoid, and with pointed or round bases. The rims regularly show impressions or incisions (*Randkerbung*). Decoration is scarce and restricted to some rows of impressions and occasional rows of pin pricks.

It is remarkable that the new, native pottery in the north is so different in all aspects from the pottery of the later phases of the *Bandkeramik*. The pots are made in a technique, which is fully different from that of the LBK. They are coil built and tempered with organic material or crushed stone, both alien to the farmer's pots. They differ fundamentally in their style as well, by their pointed bases, flaring rims and the lack of decoration. Was pottery seemingly used in the farmer's world as an important medium to transmit messages on group and personal identity, this does not seem to have been the case in the northern world. It may be that the *Begleitkeramik* played a more distinct role in view of some common characteristics like coiling, the ovoid shape and the pointed bases, but the overall resemblance with that ware are modest.

The original northern pottery style seems to have been deeply rooted in local traditions, since later contacts with the Großgartach, Rössen and especially Blicquy communities did not result in any substantial adoption or change. Alleged Rössen influences on the 'classical' Swifterbant pottery around 4000 cal BC (De Roever 2004) are less likely and problematic from a chronological point of view. A suggestion how to understand these differences will be given in the next paragraph.

4. GENDER ROLES AND THEIR IMPLICATIONS

Neolithisation is not one massive monolithic process, but is the result of interaction between individuals and groups. The process must have been differentiated according to the natural (gender and age) groups distinguished in the societies involved, not only in those of the hunter-gatherers, to be considered as the receiving party, but in the farming society as well. Age groups and gender groups will have been different actors in view of the differences of tasks and the ranges of activities of each, and – consequently – differences in mobility and communication. These premises may help us to better understand the different rates and forms of adoption of ‘domesticates’, here considered to be all material aspects of the Neolithic way of life, technological innovations as well as animals and crops. Central in this approach is the assumed gender-specific division of tasks, with more site-bound activity patterns of women as opposed to the far wider range of the activities of men.

Men’s tasks – in increasing distance from the settlement involved – will have been heavy wood working and construction of houses and fences, clearing land for crop cultivation, cattle herding, hunting and the acquisition of flint and stone for implements and tools and/or the tools themselves. Predominant women’s tasks are amongst others considered to be childcare, food preparation, growing of vegetables, collecting of wild plant food, and working of fibres into utensils and clothing. I suggest that the making of coiled basketry and wickerwork may have been one of the home-bound women’s tasks as well. Most crafts will have been executed in the tribal Mesolithic and Neolithic societies in a domestic production mode for private use, with an option for ad hoc specialization and production for a wider part of the local community for some crafts. Many other jobs are left out of consideration, like working the land, working hides, not because these were not important, but because their attribution is more speculative. That many ‘traditional crafts’ (Seymour 1984) in the West-European society are specialist male jobs is no valid counter argument in view of the different social structure of these societies as compared with the Meso/Neolithic. It must be stressed – in view of the experienced female criticism and even accusation of

sexism – that this division of tasks should not be seen as a kind of ‘natural division’ or ‘fate’ not even as desirable, but just as a generalisation of ethnographically observed general practice, which has enough power to be used as analogy for the prehistoric past. In the past – as in the subrecent present – there will have been exceptions to these ‘rules’, which should, however, not be used to frustrate the application. Wickerwork fish traps for example may have been made and repaired by the users themselves, who more probably will have been male than female (Out 2008 for a review of Dutch fish traps).

Contacts will have predominantly taken place between men of both parties, especially from the hunter’s side, as direct consequence of their general mobility and expeditions. This way they will have obtained direct information, by own observation on aspects as heavy (oak)wood working, house construction and stone technology, have taken this knowledge home and brought it there into practice. This is exactly what is reflected in the archaeological evidence.

The scarce signs for contact discussed above are indeed all related to the male domain of society: the adzes as male symbols of mastering the oak trees used for constructing houses and wells, the arrows as *pars pro toto* for hunting large game and personal defence in what should be considered former native territory. We see a sphere of interaction between males of both ‘parties’ reflected, but mainly one way round, the acquisitions of one (the minor) party in an asymmetrical relationship. This male dominance is continued in the next stages, those of the Großgartach and Rössen cultures up till the final phase of the Neolithisation, as documented at Schipluiden (Louwe Kooijmans & Jongste 2006).

Heavy oak working (wedging) has been attested at Hardinxveld *De Bruin* phases 2 and 3 but not in phase 1 of both Hardinxveld sites (Louwe Kooijmans *et al.* 2001, esp. 447). Knowledge about pottery will have been transmitted indirectly. It is hard to conceive that northern women travelled to LBK villages to be taught the art, and even less that LBK women travelled that far to the north. It is more plausible that they learned the art by hearsay on the La Hoguette and LBK ceramic traditions, and applied their own routine in making containers of fibres or withies to the general principle of making containers of baked clay. It must have been a strong technical

tradition that did not change in spite of the growing contacts and communication over the centuries and that lasted till the end of the Hazendonk group, c. 3500 cal BC.

The Swifterbant tradition covers only a modest section of the vast North European Plain, where similar developments from a-ceramic foraging societies to ceramic communities took place in the late 6th and early 5th millennium, as part of an even much wider area, including western Russia and the Ukraine (Timofeev 1998 and contributions to the symposium mentioned in note 1). Pottery of a rather simple morphology was made everywhere, from the Cardial ware and La Hoguette in the west, via the Ertebølle, Narva, Zedmar and Neman cultures south of the Baltic and further east all over Russia down to the Bug-Dnjestr culture. The similarities in overall form – ovoid or with a flaring rim, and with a pointed or a round base – may reflect a parallel need for simple cooking pots and parallel processes in the interaction between the farmers and their neighbours. This is supported by the distinct differences in technology, detailing and decoration. So Swifterbant and La Hoguette have in our study area only the general shape in common, but differ in all other aspects, like temper, firing colour and decoration. There are few or no archaeological indications for wide-ranging connections between these communities.

Coiled basketry or lipwork (German: *Spiralwulstgeflechte*) and wickerwork basketry belong to the widespread ‘traditional crafts’, not only of northern Europe, but worldwide (for instance Seymour 1984, 164-165: Rush and straw work). It is only accidentally preserved, because these products are very perishable. The required long lasting wet conditions are met only in specific regions, which means that their present day archaeological occurrence is in no way representative for their production and use in the past, not in a geographical sense and not in quantitative respect. The most relevant observations are the spectacular impressions of round floor mats in clay at Hoge Vaart phase 2, the same phase as the Early Swifterbant pottery mentioned above (Hamburg *et al.* 2001, 17 & *Afb.* 20; Peeters this volume). No other examples are known from the Low Countries. A millennium and more younger and from evolved Neolithic contexts are the coiled baskets in the Alpine ‘lake dwellings’ like Hornstaad (c. 4000 BC) Auvernier *Port* (3800 cal BC) and Arbon *Bleiche*

(dendro dated 3380 BC) and the impressions in clay discs of the Michelsberg culture (Leuzinger 2002; Schlichtherle 1990, 128-130; Lüning 1967, *Tafel* 106).

So, the development of the Swifterbant and Ertebølle styles of pottery may be understood by the development of the need for pots on the basis of a new food preparation mode, the restricted knowledge transfer in the male networks on the technique of potting, the presumed native knowledge system on making fibre mats and containers and the application of this knowledge to clay, in combination with the firing technology. This may after all be conceived as an old idea, like those brought forward by J.H. Holwerda, in line with *e.g.* Carl Schuchardt, as early as 1915 on coiled basketry, Ostrich eggs, gourds etc. as the inspiration of prehistoric pottery in general (Holwerda 1915, 23-33). But basic differences are the archaeological arguments and the specific focus on the earliest northern point-based, coiled pottery. It makes the idea of wide ranging cultural influences, all over the North European Plain, as responsible for the spread of the point-based coil-built pottery style redundant.

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