The earliest pottery in the western part of the North German Plain and its inspirations

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Introduction

Around 5000 cal BC various groups in the western part of the North European Plain started to make pottery in a very distinct style. The earliest pottery of the Swifterbant communities in its westernmost part, the Lower Rhine Basin, has been dated to a stage around 5000 cal BC at Hardinxveld-Polderweg and there are several complexes with dates in the early centuries of the fifth millennium. The ceramic phase of Danish Ertebølle pottery is generally dated from 4700 cal BC onward[1]. 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. 5200 cal BC). These dates are, however, still under discussion since they were measured on samples of charred crusts from pottery, which may not be reliable in view of the contribution of fresh water fish and as yet play no role in the periodisation[2].

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. If it had been 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 over a period of almost two millennia. In some way the knowledge of pottery making was introduced relatively early, several

[1] Andersen 1994/95.

[2] Hartz/Lübke 2004, esp. 126.

centuries before domestic animals and crops would change subsistence and it was obviously not only the technology of pottery making that was transmitted, but more fundamental may have been a new mode of food preparation.

It is striking in this perspective that the early pots of the northern plain seemingly have nothing in common with those of their presumed sources of inspiration, the ceramics of the Linear Pottery culture and the contemporary La Hoguette and Limburg pottery. The northern pottery style seems to be deeply rooted in the local tradition, since later contacts with the Großgartach, Rössen and especially Blicquy communities did not result in any substantial adoption or change. How can this be understood?

The ceramic evidence *(Fig. 1)*

The earliest pottery from the South

The Linear Pottery culture is generally considered to be the first ceramic tradition that contacted the northern plain. There is, however, one remarkable isolated La Hoguette site on the northern fringes of the South Limburg Upper Terrace at Sweikhuizen, just opposite the well-known Linear Pottery sites along the Geleenbeek on the much lower Middle Terrace at the other side of this stream.[3] It is a viewpoint location where a small assemblage of highly characteristic La Hoguette sherds without any Linear Pottery components has been found *(Fig. 2)*. Similar ceramics are fully absent in all Linear Pottery settlements on the other side of the stream, demonstrating the absence of any contact, which must be explained by differences in age, Sweikhuizen being earlier than the earliest phase of the Linear Pottery occupation in Limburg (Modderman's phase 1b)[4]. This is in full agreement with the association of this pottery style with the Älteste *Bandkeramik* in Hessen, while the use of 'grey western flint' of South Limburg origin at these sites confirms such northern contacts[5]. There is, however no evidence of any contact farther to the North.

It is the Limburg pottery, which is synchronous with Linear Pottery and found in small numbers in Linear Pottery pit fills from the earliest phase onward in all settlements. And can be considered as the successor of La Hoguette, at least in Limburg and the Lower Rhine Basin in general. This holds for Belgium as well, where La Hoguette is not found and Limburg pottery is a regular admixture[6].

Bandceramic and Limburg pottery have been found beyond the loess at sites like Montfort II, Echt-Annendaal, Kesseleik and Veen (Kreis Moers, German Rhineland) exclusively at the 30 km zone[7]. The finds are restricted to the final phase of the Linear Pottery. So there seems to be a clear pattern whereby knowledge on pottery could only be obtained in the Linear Pottery settlements on the loess, and from these knowledge then spread out in the final stage of Linear Pottery. So there seems to be a clear pattern in time, in which knowledge about pottery could be obtained only in the Linear Pottery settlements on the loess and was only brought outside in its final stage.

[3] Modderman 1987.

[4] As argued before, see Louwe Kooijmans 1998; Modderman 1970, chapter 8.

[5] Gronenborn 1990.

[6] Modderman 1981; Lüning et al. 1989; van Berg 1990 for a survey of the north-westernmost La Hoguette and Limburg.

[7] Respectively Newell 1970, 178; Brounen 1985; Modderman 1974 (the official spelling is 'Kesseleik'); Hinz 1974. The Montfort II site seems, however, not to be fully reliable as to the provenance of the attributed Linear Pottery material.

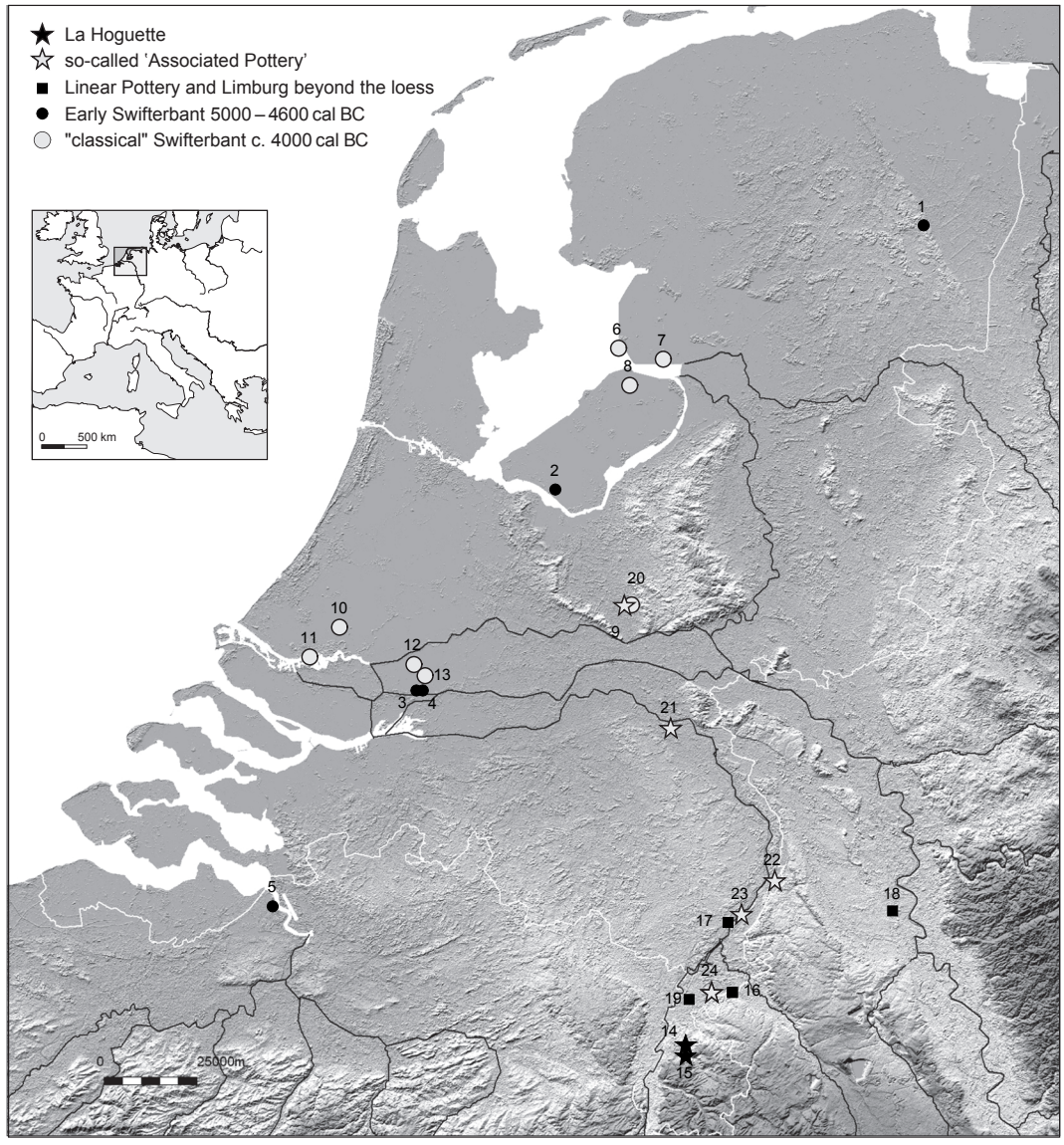

Fig. 1. Location map of sites mentioned in the text. 1 Bronneger, 2 Hoge Vaart, 3 Hardinxveld-De Bruin, 4 Hardinxveld-Polderweg, 5 Doel-Deurganckdok, 6 Urk, 7 P14 (Schokland), 8 Swifterbant-cluster, 9 Ede-Rietkamp, 10 Bergschenhoek, 11 Schiedam, 12 Brandwijk, 13 Hazendonk, 14 Geleen, 15 Sweikhuizen,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

The reality is, however, slightly more complex. There is one (Late) Linear Pottery assemblage at Geleen-Nijssenstraat with some sherds of distinct La Hoguette affinities[8]. This single small assemblage confronts us with the question to what extent the La Hoguette tradition was continued in this region side by side to 'Limburg' or even as a part of it. Another option is a distant link with regions where La Hoguette continued into Late Linear Pottery times, like

[8] Brounen/Vromen 1990. The drawings in the publication may not be very convincing, but the pottery itself was on show in the Leiden workshop (February 2007).

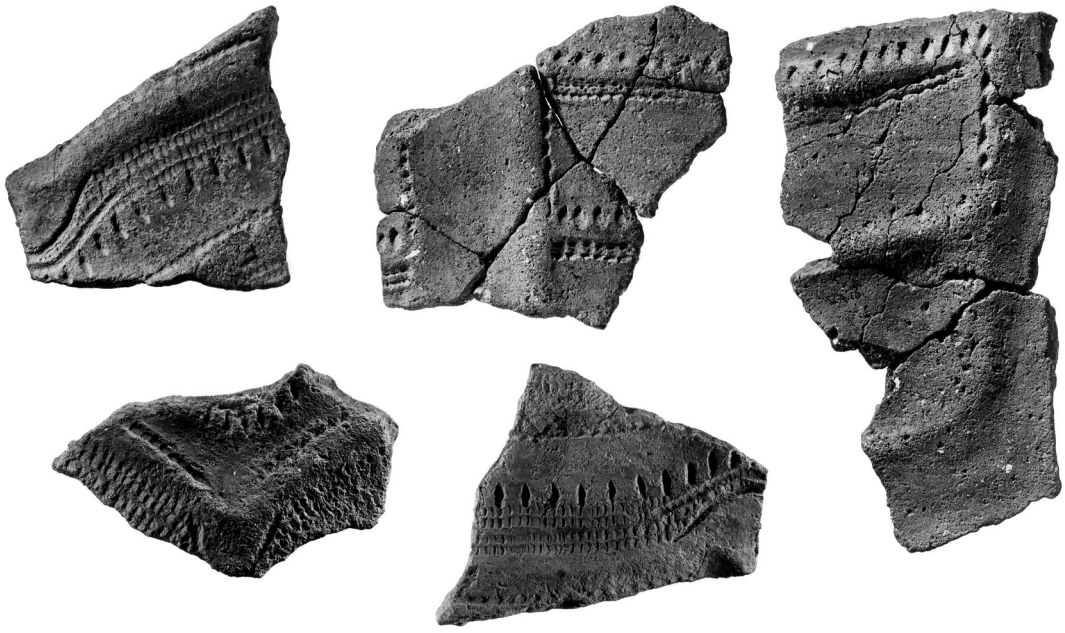

Fig. 2. Sweikhuizen, La Hoguette pottery (after Modderman 1981). – Scale 1 : 2.

Alsace. Secondly a series of small surface complexes with some sherds related to the so-called 'Associated pottery' has been recovered in the past years in the Limburg Meuse area, among others at Venlo-Ossenberg, Kessel and Posterholt[9]. Most characteristic is pottery with Chevron Band decoration in a shallow, fluted relief combined with short parallel scratches. Sherds of this type of pottery have been dredged up in a sand quarry 80 km to the North of the loess margin at Gassel, together with a typical Linear Pottery amphibolite adze *(Fig. 3)*[10].

Farther north the chance find of Ede Frankeneng suggests even influences from the South across the main rivers area[11]. The remains of two rather different pots were recovered from the peat-fill of a small depression with a diameter of only 3 m *(Fig. 3)*. One pot, which is fluted in a Chevron Band motive, is ovoid, quartz tempered and has a pointed base and a polished surface, combined with some knobs. It has a light brown to reddish colour with a gray to black core. This pot in terms of its decoration and technology clearly stands apart from the Swifterbant tradition and would fit best into that of the enigmatic 'Associated pottery'. The other pot is black, thin-walled and tempered with sand and chamotte. It has some decoration consisting of block and sun motives, executed with a bi- or tridented instrument. These motives can be linked to the wide southern Late and post-Linear Pottery world, with Blicquy as the nearest tradition.

These early finds have been listed by Verhart and are at present subject of detailed technological and typological study, which may bring some light in the darkness[12]. However an enormous lack of information about the character of the communities involved and their mobility and subsistence still remains. A major problem is that we do not have ^{14}C dates for these complexes The association of the objects – sherds and adze at Gassel as well as both pots at

[9] Verhart 2000, 33–35; Brounen 1999; for the concept 'Associated Pottery' see Jeunesse 1995.

[10] Brounen/de Jong 1988.

[11] Schut 1988; Verhart 2000, 34.

[12] Verhart 2000; Brounen/Hauzeur in prep.

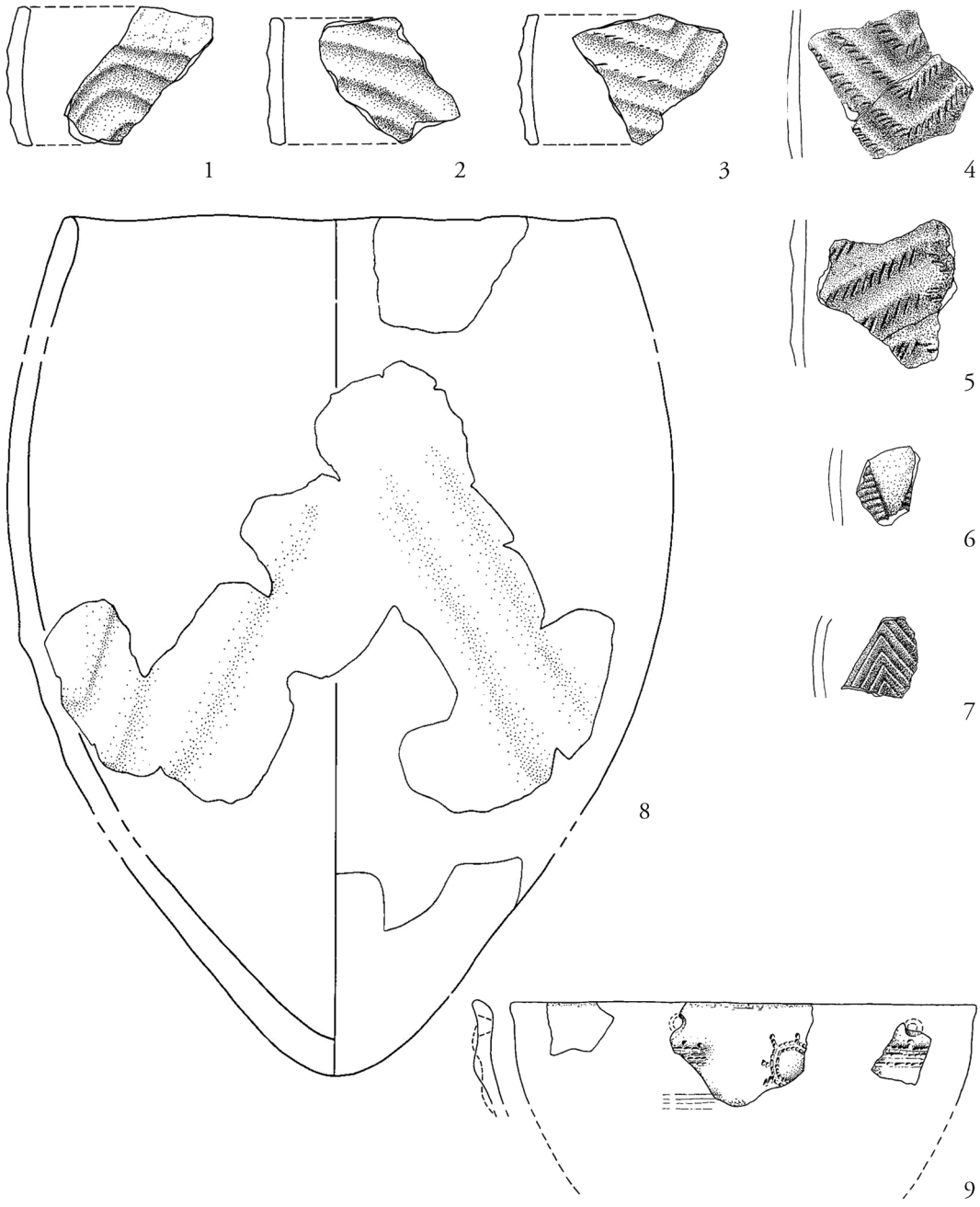

Fig. 3. So-called 'Associated Pottery': 1–2 Posterholt (after Verhart 2000); 3 Venlo-Ossenberg (after Verhart 2000); 4–7 Gassel. (after Brounen/De Jong 1988); 8 Ede-Frankeneng (after Schut 1988); 9 id. associated bowl with sun-motif decoration. – Scale 1:3.

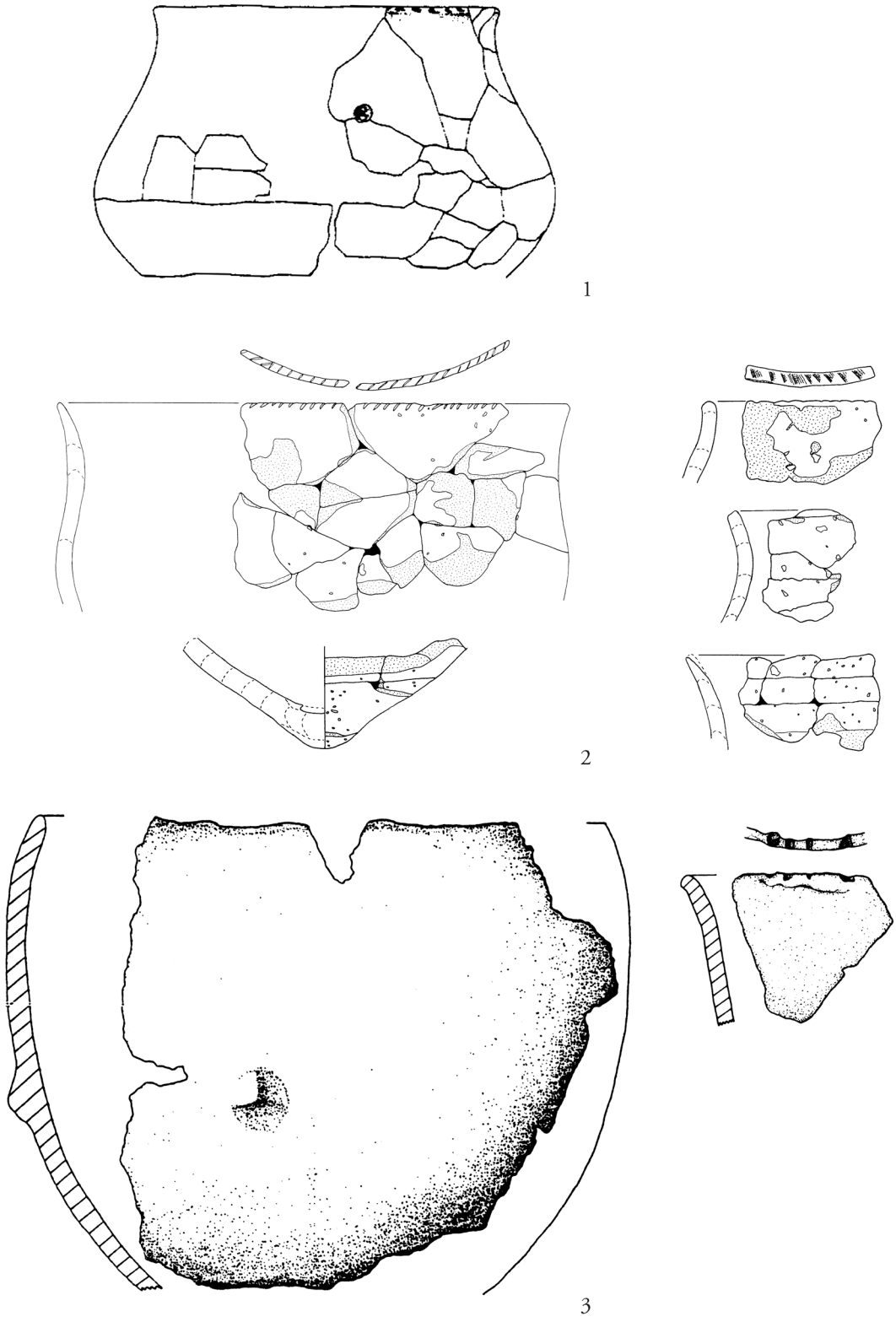

Fig. 4. Early Swifterbant pottery. 1 Bronneger (after Kroezenga et al. 1991); 2 Hoge Vaart (after Hogestijn/Peeters 1996); 3 Doel-Deurganckdok, sector B (after Crombé et al. 2004). – Scale 1 : 3.

Frankeneng – is open to discussion and the possible dates of the component parts have rather large ranges. The amphibolite adze is for instance most probably relatively Early Linear Pottery, but may be Late Linear Pottery. The time range of the 'Associated pottery' and the Chevron Band motive is still uncertain and may surpass that of La Hoguette *sensu stricto*. The ovoid shape of the Ede-Frankeng vessel is no chrono-marker in view of the vessel of similar shape from Hardinxveld-De Bruin phase 3 *(Fig. 7)*. The finds warn us that we should take other groups with distinct ceramic traditions into account that were active in the western part of the northern plain contemporaneous with Linear Pottery and equally may have been a source of inspiration for the early Swifterbant communities.

A serious problem in dealing with these finds from the southern and central uplands is, that none of them have been ^{14}C-dated, due to the lack of associated organic material. Dating relies fully on the Linear Pottery typochronological framework, but even that could only be used incidentally.

The earliest Swifterbant pottery

Swifterbant pottery has been the subject of several detailed studies, by Raemaekers and De Roever, in recent years[13]. Their main concern was the 'classical' phase, dated around 4000 cal BC, to which the main complexes such as the cluster on the Swifterbant levees, P14 (Schokland) and Urk in the IJsselmeer district, Hazendonk, Brandwijk, Schiedam and Bergschenhoek in the Rhine/Meuse estuary have been dated. The radiocarbon evidence has been evaluated by Lanting and Van der Plicht. Dates have been listed by De Roever, Raemaekers and by Peeters[14]. In this paper the earliest assemblages are in the focus of interest.

^{14}C dates

There is good evidence now that pottery production started in the northern societies at the very end of the sixth millennium, around 5050 cal BC and soon became a normal household feature. Eight ceramic sites could be listed, which have produced radiocarbon dates older than 5500 BP or 4500 cal BC and, on this basis, can be attributed to the earliest, pre-agricultural stage of the Swifterbant culture *(Tab. 1)*. The only exception should be made for the site Schokland-P14, since the dates represent the lower limits of a wide range covered by 19 dates, and may moreover be too old due to the so-called fresh water fish effect. A marine reservoir effect will not play any role since all sites are inland and were inhabited by communities exclusively exploiting a fresh water environment. The contribution of fresh water fish is, however, a potential disturbing factor in view of the low δ^{13}C levels of -29 to -24, especially for the dates of charred crusts on pottery in all assemblages. In some cases there is a stratigraphic control and a reference of dates on other material, as in the cases of Bronneger and both Hardinxveld sites. In general these dates appear to be consistent, except for De Bruin phase 2 (end), where a difference of four centuries between the dates on crusts and those on uncharred macro remains can be observed. The long and consistent series of charcoal dates of Hoge Vaart are considered reliable, but the crust dates of the Doel sites have a serious danger of fresh fish effect and the same holds

[13] Raemaekers 1999; 2003/04; de Roever 2004.

[14] Lanting/van der Plicht 1999/2000, 55–56; de Roever 2004, 14, Raemaekers 1999, 201; Peeters 2007, 338.

sample	material	lab no.	BP date	$\delta^{13}C$	cal BC (rounded up)
Bronneger					
Kroezenga et al. 1991;Lanting 1992; Raemaekers 1999, 108					
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
Hoge Vaart, selection (3 of 23 dates)					
Peeters / Hogestijn 2002; Peeters 2007, 338					
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					
Crombé et al. 2002, 2003; Bats et al. 2003					
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					
Bats et al. 2003					
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					
Louwe Kooijmans / Mol 2001					
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					
Mol / Louwe Kooijmans 2001					
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

sample	material	lab no.	BP date	$\delta^{13}C$	cal BC (rounded up)
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
phase 2 (start)					
DB 6 macro remains	uncharred botanical	GrA-12304	6170 ± 50	-25.00	5300–4950
Schokland P14 (6 oldest of 19 dates)					
Lanting / Van der Plicht 1999/2000, 55–56; Peeters 2007, 338–339					
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					
Raemaekers 1999, 201					
Layer 30, dispersed fragments	charcoal	GrN-19073	5670 ± 45		4650–4350

Tab. 1. Radiocarbon dates for Early Swifterbant sites in the Lower Rhine Basin.

for Schokland-P14. A serious handicap for the assessment of the dates in this respect is the lack of ^{15}N determinations, they having only recently become routine for non-human material.

The sites

Two Late Mesolithic/early Swifterbant wetland settlements have both been excavated over c. 400 m² at Hardinxveld-Giessendam in 1997–98.[15] The sites, called Polderweg and De Bruin are c. 1 km apart and both located on the tops of Late Glacial river dunes, that were overgrown by peat c. 5000 and 4500 cal BC respectively, making the dunes uninhabitable. Recently the Oxcal calibration programme was applied to the ^{14}C dates of the sites taking new factors into consideration[16]. This resulted in some adjustments of the upper and lower boundaries of the previously published phases. The earliest pottery in the stratigraphic sequence is the modest assemblage of Polderweg phase 2, comprising a small point-based bowl, a round base and some flaring rim fragments *(Fig. 5.2)*[17]. The phase 2 deposits of De Bruin produced a richer assemblage comprising two 'wares'. The dominant ware is a plain, ovoid or S-sectioned, plain pottery with round bases and frequent rim impressions, tempered mainly with organic mate-

[15] Louwe Kooijmans 2001a; b.
[16] Mol/van Zijverden 2007.
[17] Raemaekers 2001a.

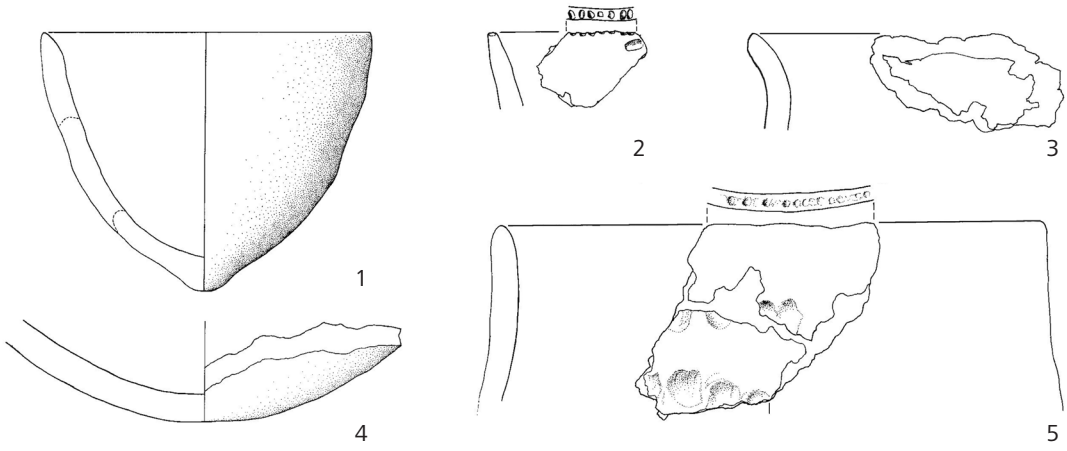

Fig. 5. Early Swifterbant pottery. 1–5 Hardinxveld-Polderweg, phase 2 (after Raemaekers 2001a). – Scale 1 : 3.

rial. Occasionally pinprick decoration, rim perforations and knob lugs are found *(Fig. 6)*. It fits well in the Swifterbant tradition. The other ware is tempered with burnt bone, visible as white speckles, and occasionally decorated with impressions of a finely indented comb *(Fig. 7)*. It is so closely related to the Blicquy pottery of the Belgian loess zone that it was called 'Blicquy', although related material is missing in the rather wide intervening space[18].

The dating evidence is rather inaccurate, in spite of a keen series of samples *(Tab. 1)*, but it allows us to say firstly that pottery is fully absent up till at least 5200 cal BC (lower limit of end De Bruin phase 1) and secondly that it is present at least at c. 4900 (upper limit of end Polderweg phase 2) with a 2 sigma accuracy. The dates of Polderweg make an introduction around 5050 cal BC very likely in view of the presumed short duration of this phase 2. It is conceivable that the simple, rather small and relatively thick-walled pottery of this assemblage stands at the basis of the Swifterbant tradition and that this start is contemporaneous with the evolved stage of Linear Pottery. The absence of Blicquy ware in this assemblage accords to this interpretation. Blicquy pottery is dated in the loess zone to the very end of the Bandceramic and the directly successive centuries, that is from 4900 onward. It implies that the (few) Blicquy vessels of De Bruin were either brought from outside into a community which had already developed a ceramic tradition of its own, or were made at the site by potters intimately acquainted with the Blicquy style and technology[19].

The Hoge Vaart-A27 site was situated on a cover sand ridge next to a stream bed[20]. It was excavated in great detail and on a very large scale in the years 1994–1997 Coil-built, quartz tempered, round- and point-based pottery dated to 4800–4500 cal BC is documented there in phase 2,, associated with an extensive (flint) artefact scatter and a large number of surface hearths *(Fig. 4.2)*. Some of the pots had rim impressions or incisions. Pottery is absent in the preceding phase 1, dated 5400–5000 cal BC, which comprised mainly of hearth pits. Neither domestic animals, nor charred cereal grains were found at the site.

[18] Raemaekers 2001b; cf. Cahen/Docquier 1985 for the northern- and easternmost Blicquy in the Belgian Hesbaye.

[19] No diatom analysis has been made. It is questionable whether this would allow a choice, in view of the location outside the haline zone of the delta.

[20] Hogestijn/Peeters 1996; 2001; Peeters 2007; Raemaekers 1999, 94–95.

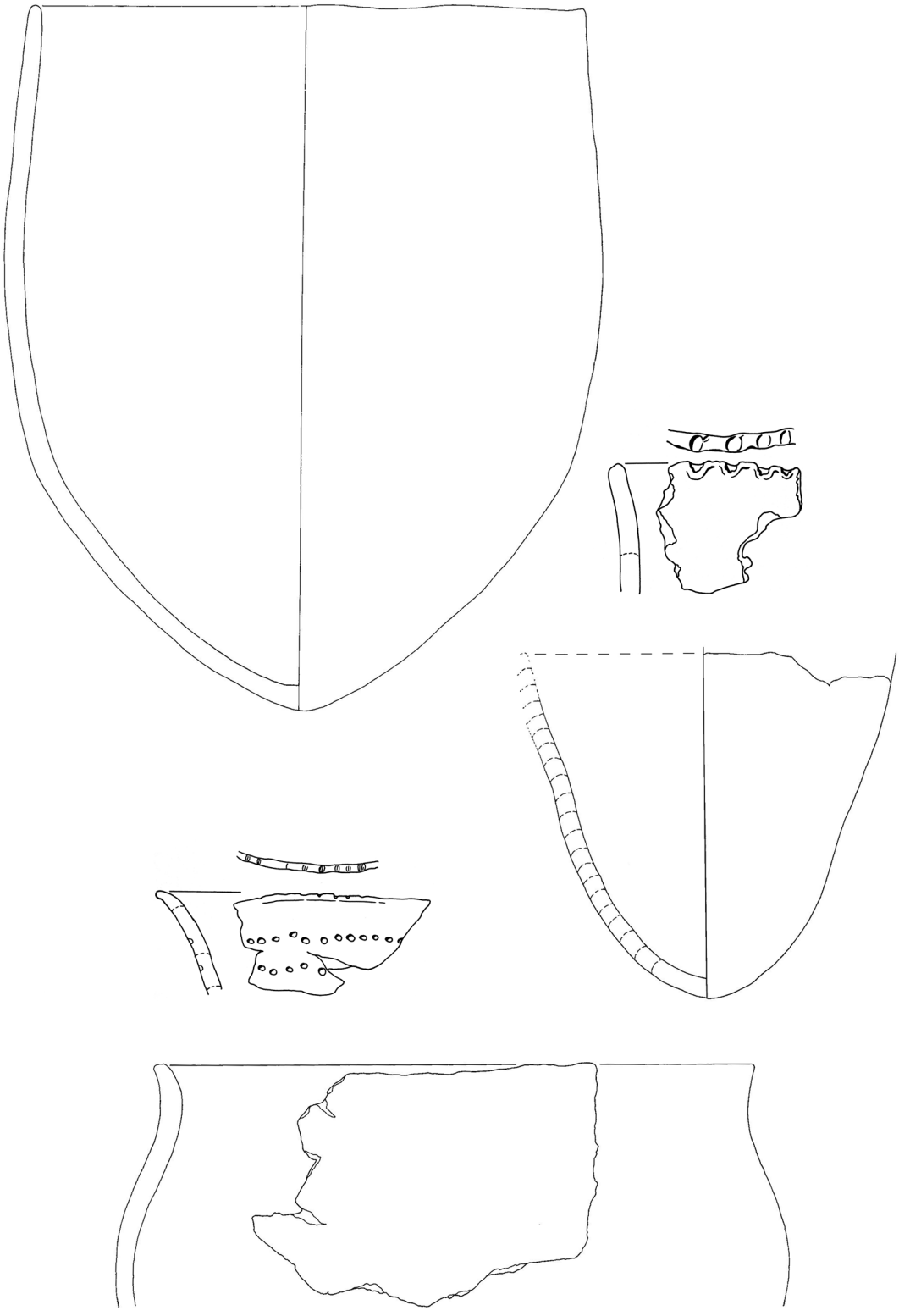

Fig. 6. Hardinxveld-De Bruin, phase 2–3 (after Raemaekers 2001b). – Scale 1 : 3.

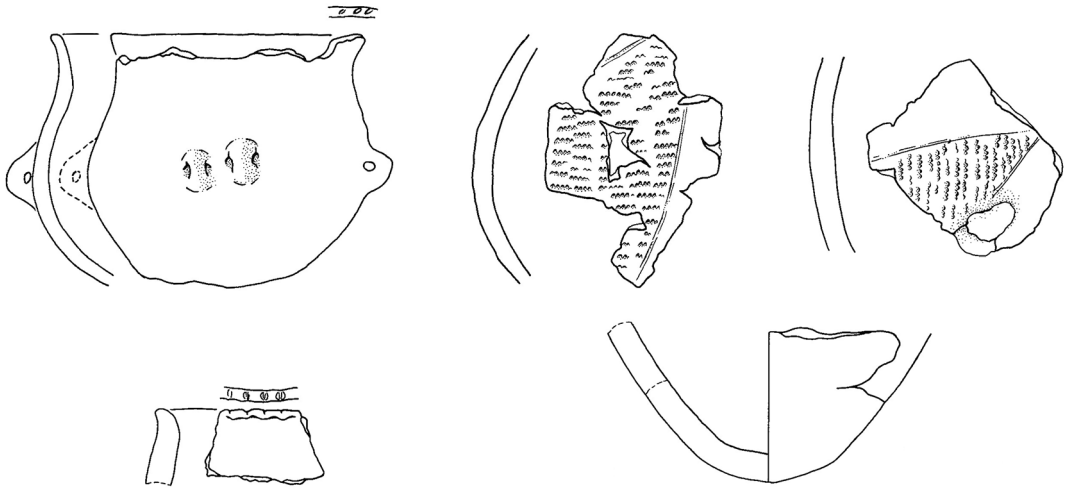

Fig. 7. Hardinxveld-De Bruin, phase 2, Blicquy-related pottery (after Raemaekers 2001b). – Scale 1 : 3.

At Bronneger (Drenthe) a (fragmented) pot was dredged up in 1990 together with two red deer scull caps with attached antlers of substantial dimensions and one separate antler beam *(Fig. 4.1)*[21]. The finds are interpreted as deliberate offerings into a valley stream. The pot is clearly of Swifterbant type (although the base is missing), coil-built, grit tempered, and with S-section and flaring rim with impressions. Radiocarbon dates of crusts on the pot date to 4850–4550 cal BC, which implies that the pot belongs to the earliest Swifterbant stage and makes the complex a very early example of intentional deposition.

The excavations in the new docks of Antwerp at Doel have produced several concentrations of flint and ceramics in the Swifterbant tradition, dated to the period under consideration *(Fig. 4.3)*. The dates may, however be too old by several centuries in view of a possible fresh water fish effect.

None of the sites in the central lake district of the Netherlands, comprising the Swifterbant cluster of sites, have so far produced dates older than 4500 cal BC, except Schokland-P14. The oldest dates of the wide range are, however, not necessarily indicative of an early phase of occupation, but can be explained statistically as the lowest scores of a generally younger occupation phase. The same holds for the oldest dates of the long series from the site Hüde I on the banks of Lake Dümmer in Lower Saxony[22].

It is remarkable that the new, native pottery in the North is so different in all aspects from that of its presumed 'source of inspiration', the pottery of the later phases of the Linear Pottery. The pots are made in a technique which is completely different from that of the Linear Pottery. They are coil built and tempered with organic material or crushed stone, both alien to the farmers' pots. With their pointed bases, wide flaring rims and limited decoration they also differ fundamentally in their style. Was pottery seemingly used in the farmers' world also 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 'Limburg pottery', or perhaps the

[21] Kroezenga et al. 1991; Lanting 1992; Raemaekers 1999, 98.

[22] Lanting/van der Plicht 1999/2000; Kampffmeyer 1991, Abb. 249.

'Associated pottery', played a more distinct role in view of some common characteristics such as coiling and pointed bases. However the overall resemblances with these wares are modest. A suggestion as to how to understand these differences will be offered in the next paragraph.

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 be differentiated according to the natural groups distinguished in societies, especially with regard to the hunter-gatherers, who are considered as the receiving party. Age groups and gender groups will have been different actors in view of the differences in mobility and in ranges of activities of each, and – consequently – differences in communication. That idea may help us to better understand the different rates and forms of adoption of 'domesticates', which are considered here to be all material aspects of the Neolithic way of life – not only the animals and crops, but also the technological innovations. Central in this approach is the gender specific division of tasks, with more site-bound activity patterns for women as opposed to the far wider range of the activities of men.

Men's tasks – in order of the distance from the settlement involved – being amongst others, heavy wood working and construction of houses and fences, herding of cattle, hunting and the acquisition of flint and stone for implements and tools and/or the tools themselves. Of these tasks, only the first is most likely to have taken place within the daily territory. Women's tasks are, amongst others, considered to be childcare, food preparation, growing of vegetables, collecting of wild plant food, and the working of fibres into utensils and clothing. I will suggest that making wickerwork and coiled basketry may have been one of the home-bound women's tasks as well. Many other jobs are left out of consideration, like working the land and working hides. Not because these were not important, but because their attribution is more speculative. I must stress, especially in view of the female criticism experienced and even accusation of sexism, that this division of tasks should not be seen as a kind of 'natural division' or 'fate' or even as desirable. It is just as a generalisation of ethnographically observed general practice of enough cogency 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'.

In this approach contacts will have been predominantly between men of both parties, especially from the hunters' side, as part of their traditional mobility and expeditions. This way they will have obtained direct information, by own observation, on aspects such as heavy (oak)wood working, house construction and stone technology They then would have taken this knowledge home and brought it into practice there. And this is exactly what is reflected in the archaeological evidence.

The scarce signs for contact discussed 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 the herding of cattle in what should be considered former native territory. A a sphere of interaction between males of both 'parties' is reflected, though mainly one way - 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 neolithisation, as documented at Schipluiden[23].

Heavy oak working (wedging) has been attested at Hardinxveld-De Bruin phase 2 but not in phase 1 of both Hardinxveld sites[24]. Knowledge of pottery will have been transmitted

[23] Louwe Kooijmans/Jongste 2006.

[24] Louwe Kooijmans et al. 2001B, 473, 524.

indirectly. It is hard to conceive that northern women travelled to Linear Pottery villages to be taught the art. It is more plausible that they learned about it by hearsay evidence and applied their routine in making containers of fibres or withies to the general principle of making containers of baked clay. We should realise that the construction of pottery on the basis of narrow coils is not self-evident, nor the most efficient. It must, moreover, have been a strong technical tradition that did not change in spite of the growing contacts and communication over the centuries. It lasted at least till the end of the Hazendonk group, c. 3500 cal BC[25].

The Swifterbant tradition covers only a modest section of the vast North European Plain, where similar developments – from aceramic foraging societies to ceramic communities – took place in the late 6th–early 5th millennium in an even wider area, including western Russia and the Ukraine[26]. Pottery of a rather simple morphology was made everywhere, from the Cardial pottery 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 – reflect in my opinion 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. In our area of study Swifterbant and La Hoguette have only the general shape in common, but differ in all other aspects, like temper, baking colour, decoration. There are few or no archaeological indications for wide-ranging connections between these communities

Coiled basketry or lipwork (german: Spiralwulstkorbflechten) and wickerwork basketry belong to the widespread 'traditional crafts', not only of northern Europe, but worldwide[27]. They is only accidentally preserved, because these products are very perishable. The long lasting wet conditions required are met only in specific regions, which mean 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 *(Fig. 8)*[28]. 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) Auvernier-Port (3800 cal BC) and Arbon-Bleiche (dendro-dated 3380 BC) and the impressions in clay discs of the Michelsberg culture[29].

So the development of the Swifterbant and Ertebølle styles of pottery may be understood as 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 containers and the application of this knowledge to clay, in combination with the baking technology. These may after all be conceived as old ideas, 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[30]. But basic difference is that the arguments are archaeological rather than anthropological and the specific focus is on the earliest northern point-based, coiled pottery. It makes the idea of wide ranging cultural influences, all over the North European Plain, being responsible for the spread of the point-based coil-built pottery style redundant.

[25] Louwe Kooijmans/Jongste 2006.
[26] Timofeev 1998.
[27] For instance Seymour 1984, 164–165: Rush and straw work; Wendrich 1999.
[28] Hogestijn/Peeters 1996, deel 13, 17, Fig. 20.
[29] Leuzinger 2002; Schlichtherle 1990, 128–130; Leuzinger 2002; Lüning 1967, Taf. 106.
[30] Holwerda 1915, 23–33.

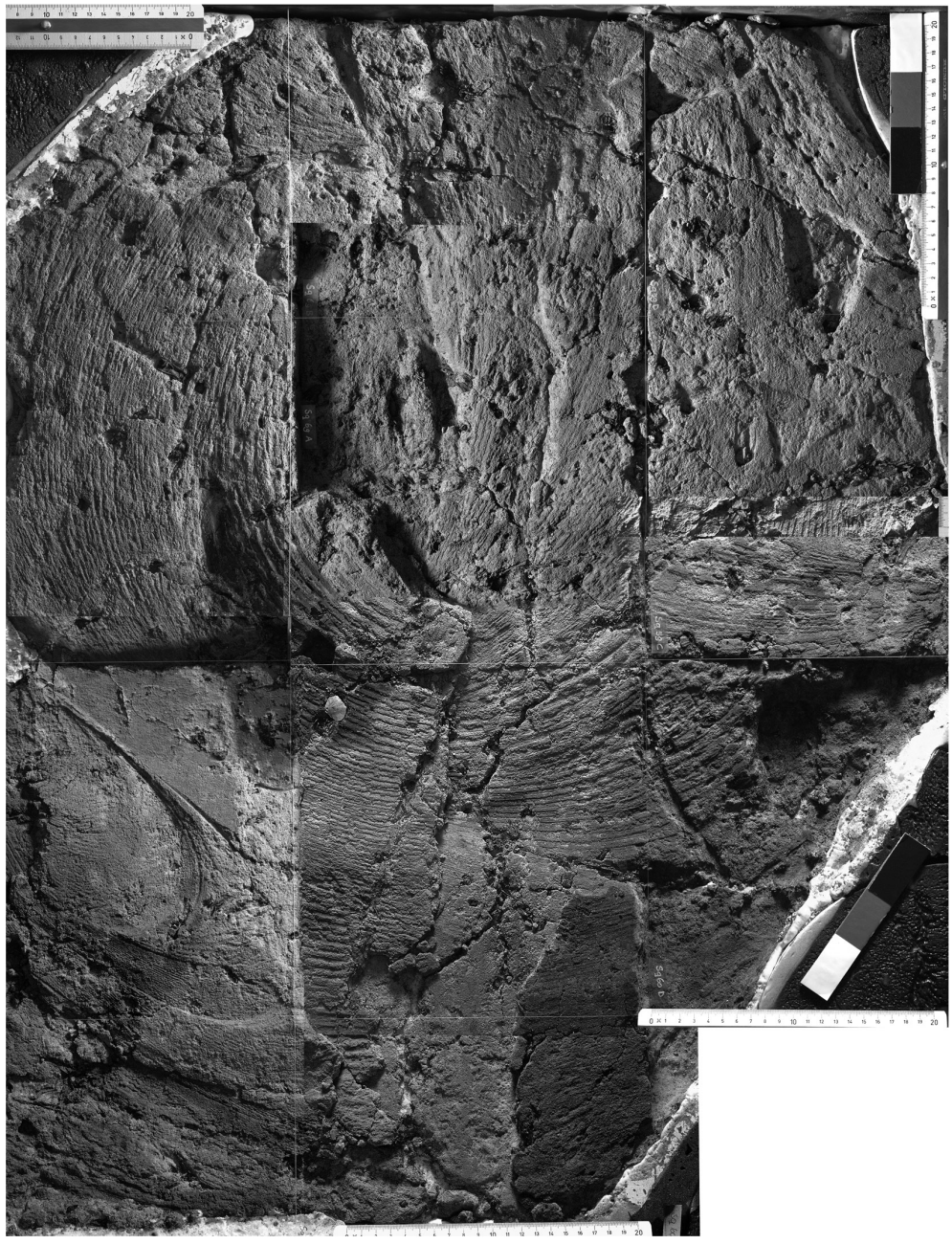

Fig. 8. Hoge Vaart, impression of a coiled mat, made of plant fibes, measuring c. 100 x 120 cm (after Hogestijn/Peeters 2001, *deel* 13, *Afb*. 20).

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Abstract · Zusammenfassung · Résumé

ABSTRACT The neolithisation of the western part of the extensive coversand landscape to the north of the loess zone lasted about two millennia in spite of the lithic evidence of regular north-south contacts throughout this period. The neolithisation in this region was *not* the gradual transmission of a complete "Neolithic package", but appears to have been a sequence of adoptions of specific aspects of the Neolithic way of life in which new technologies came first. Scarce stone adzes document a direct contact in the male domain from c. 5000 cal BC onwards. Equally scarce pottery finds show the northern influences of the major players on the Early Neolithic stage: *Bandkeramik*, La Hoguette, Limburg and Blicquy. But none of these pottery styles were copied by the indigenous women, who presumably produced the first local pots around 5000 cal BC or perhaps even slightly earlier. Their distinct native technology and style are explained as resulting from the indirect contacts in the female domain, as opposed to the direct contacts of the adult male part of society. lt was pottery as such which became known through contacts with various Neolithic groups, not the process of production. The chosen teclmology was that of native coiled lipwork and matting, documented as imprints in clay at one of the earliest sites.

ZUSAMMENFASSUNG Die Neolithisierung des westlichen Teils der Sandflächen nördlich der Lösszone dauerte etwa zwei Jahrtausende obwohl es während diese ganze Periode regelmäßige Kontakte zwischen Nord und Süd gegeben hat, wie die Gesteinsartbestimmungen zeigen. Die Neolithisierung innerhalb dieses Gebiets war *nicht* die Übernahme eines „Gesamtpakets", sondern die Adaption einer Sequenz von spezifischen Merkmalen des neolithischen Lebens, mit technologischen Erneuerungen. In der ersten Stufe (ab ca. 5000 cal BC) deuten wenige steinerne Dechsel direkte Kontakte in der männlichen Domäne an. Die seltenen keramischen Funde zeigen uns die wichtigsten Akteure auf der frühneolithischen Bühne: Linearbandkeramik, La Hoguette, Limburg und Blicquy. Aber keiner dieser Keramikstile wurde um 5000 vor Chr. von den einheimischen Frauen, welche wahrscheinlich die lokalen Töpfe produzierten, kopiert.

Einheimische Technologie und spezifischer Stil lassen sich als Ergebnis von indirekten Kontakten im Bereich der Frauen erklären, im Unterschied zu den direkten Kontakten der erwachsenen Männer. Es war die Keramik an sich, die durch die Kontakte mit verschiedenen neolithischen Gruppen vermittelt wurde, nicht der Prozess des Keramikherstellung. Die angewendete Technologie folgte dem Vorgehen beim Korbflechten und der Herstellung von Matten, worauf Eindrücke auf Keramikfunden der frühesten Siedlungsstellen hinweisen.

RÉSUMÉ La néolithisation de l'ouest des plaines sablonneuses situées au nord de la région loessique s'étendit sur près de deux millénaires, bien qu'il y eût des contacts réguliers entre le Nord et le Sud durant toute cette période, comme l'indiquent les déterminations du matériel lithique. La néolithisation dans cette région ne signifie pas l'acquisition d'un « paquet » global, mais l'adoption d'une série de caractéristiques spécifiques de la vie néolithique, doublées d'innovations technologiques. Lors de la première phase (dès 5000 cal BC environ), les quelques herminettes en pierre indiquent des contacts directs du côté des hommes. Les rares céramiques révèlent les acteurs les plus importants de la scène néolithique précoce:

le Rubané, la Hoguette, le Limbourg et Blicquy. Mais, vers 5000 av. J.-C., aucune des ces traditions ne fut copiée par les femmes autochtones qui fabriquaient vraisemblablement la vaisselle locale.

La technologie autochtone et le style spécifique s'expliquent en tant que résultat de contacts indirects du côté des femmes contrairement aux contacts directs des hommes adultes. C'est la céramique même qui fut transmise par les contacts avec différents groupes néolithiques, non pas le processus de fabrication. La technologie utilisée reprenait les techniques traditionnelles de la vannerie et de la fabrication des nattes, ce qu'indiquent les impressions observées sur les céramiques des plus anciens habitats.

Postscript

The manuscript of this paper was closed in 2007. The results of the Leiden workshop on early pottery in the Lower Rhine Area, February 2007 (Vanmontfort et al. 2010) have not been included. The Ede-Rietkamp pottery (Schut 1993) appears as to be a forgery, Neolithic ceramics from Morocco being inserted in construction works by an amateur archaeologist. References to this site have been deleted during proof correction.

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