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17 Exotic flint and the negotiation of a new identity in the 'margins' of the agricultural world: the case of the Rhine-Meuse delta

Annelou van Gijn

17.1 Introduction

In the late 1980s microwear studies of flint tools were abandoned in most European countries (with the notable exception of France and Spain), due to a critical article by a renowned archaeologist (Newcomer *et al*. 1986). In Leiden however such studies were further pursued and it was possible to consolidate a laboratory for use-wear and residue studies that, as one of the few, has a permanent post attached to it. This was largely due to Leendert's continued commitment to this field of expertise, a field he believed could contribute to his quest for a better understanding of the occupation of the Rhine/Meuse delta and the neolithisation process in this 'marginal' area. Through the years use-wear studies formed part of all of Leendert's field research, including the large wetland excavations of Hardinxveld and Schipluiden. In the early years research was almost solely geared towards solving questions regarding the activities that took place at a site. As a consequence, such studies, in their attempt to contribute to questions regarding subsistence base, the detection of activity centres and so forth (Van Gijn 1990), were almost another ecological approach. However, use-wear and residue studies can contribute in rather unexpected ways to more elusive issues as well, like 'ideology' or 'identity', areas which Leendert had not anticipated when he first supported and endorsed this methodology. In this paper I would like to illustrate this by means of a small example of specific tool use deriving from the Neolithic sites of Brandwijk and Schipluiden, two sites that are instrumental in our understanding of the gradual 'going over' (Whittle/Cummings 2007) of the wetlands from a hunting-gathering-fishing existence, via an extended broad-spectrum economy (Louwe Kooijmans 1993) to a predominantly agricultural way of life.

This gradual adoption of a new way of life, and hence the negotiation of a new identity, is also reflected in the way simple flint tools are used and treated. Flint is often seen as a mundane material, forming the predominant raw material for the production of much of the everyday tool repertoire of Stone Age societies. Obviously, a social or ideological significance has long been accepted for flint objects that are either very large, rare or beautifully made. It is however much less obvious that also inconspicuous flint implements, found in settlements and contributing to everyday tasks, have a social significance and may give us a clue about past identities. Usually this significance cannot be deduced from morphology and tool type alone. Additional data from the use-wear traces visible on them are crucial: it is 'the hidden choices of tool use' so to speak that tell us about the technological choices made and the significance attributed to flint objects. In other words, simple flint tools have materiality too and contribute to the construction and perpetuation of the *habitus* and they are likely to be reflective of long term traditions.

17.2 The 'specialness' of flint objects

Due to the pioneering work of for instance Lemonnier, there is a growing awareness that tools, being part of a technological system, are imbued with cultural and social values (Lemonnier 1986). Objects thus form an integral part of social life. Not only do they symbolize the social and cultural identity of their makers, they also, through their role in daily life, structure and reinforce relationships between different actors or between these actors and their ancestors. This is no different for objects made of flint, however mundane such objects may seem. The introduction of the concept of a tool's biography (Kopytoff 1990) further contributed towards a different way of studying objects. Use-wear and residue studies of tools can play a key role in reconstructing and understanding this biography: it allows an interpretation of the uses to which an object is put, and the treatments it has undergone during its life and deposition or discard. Such inferences can be related to the raw material chosen to make the object with (differences in the way exotic and local raw materials were used) and the amount of skills and knowledge invested in its production (a skilfully made dagger versus a simple unretouched flake). For example, some flint objects are not used at all, and, for that matter, were never meant to be used, like the TRB axes made of non-local Scandinavian flint (Wentink 2006), or they 'lived a very special life' like the daggers of the Late Neolithic and Bronze Age (Van Gijn in press a).

Flint has several inherent properties that cause it to be less insignificant than we tend to think. First of all, it can appeal to our senses: it has a colour, sometimes a mottled

appearance of contrasting hues. Colour is a feature that many archaeologists, shaped as we are by black and white photographs and line drawings, tend to overlook. Recently, colour has been included in archaeological discourse, producing some striking examples of the special significance of the colour of stone for prehistoric peoples (Cooney 2002; Jones/MacGregor 2002). Flint also has a texture that can be felt and experienced. The translucency of flint is also likely to be a feature that added to its attractiveness. Flint may also have appealed to our auditory senses: it produces a nice ringing sound when knapped and everybody who ever attended a 'knap-in' (Whittaker 2004) knows the characteristic sound of flakes dropping on top of each other. It can well be imagined that such knapping sessions were undertaken not for the production of usable end-products or for learning how to knap, but for the very experience of knapping in a ritual or festive context. Another physical property of flint is its capacity to make fire when flakes of flint are struck against each other: flint is thus linked to an element that is highly significant in domestic and ritual context.

Flint also signals its origin. Because of the characteristic colours and textures it is often clear to any knowledgeable observer where the material derives from. It is certainly apparent when a flint material comes from afar: the honey-coloured flint from Grand-Pressigny in Central France is a good example. Although flakes with cortex on them are often interpreted as a sign of raw material shortage, the presence of cortex may also contribute to conveying information about the origin of the piece of flint: Rijckholt flint with chalky cortex simply had to originate from the south-eastern parts of the Netherlands and could not have been obtained from the gravel beds or terraces along the rivers (then the cortex would be rolled and hard). Exotic flint can thus make reference to places far removed from the daily interaction sphere. This may also include allusions to the world of the mythical ancestors or to the spirits, a realm that is just as unreachable (and thus potentially threatening) as places that are spatially remote (Helms 1988). The same pertains to flint objects in which much knowledge and expertise is invested: the know-how of a skilled craftsperson is often perceived as being bestowed by the ancestral spirits (Helms 1993). Flint objects in which a lot of skills are invested and which are made of exotic raw material, are thus likely to have a special meaning extending beyond the daily domestic sphere of local communities. Such objects are often easily recognizable by a larger audience and can be considered as inalienable goods, materializing collective values.

A last important property of flint is its longevity. Stone is less likely to deteriorate and has a permanency beyond most other materials that 'things' can be made of such as plant fibres and bone. It can thus be inscribed with symbolic information, linking the past and the present and the present to the future. Flint tools, as inalienable objects, can therefore have a life of their own and can play a role in negotiating social relationships and processes of change. One such important process is the gradual incorporation of a new way of life by the inhabitants of the wetlands of the Rhine-Meuse delta.

17.3 Context

Around 5300 cal BC the first Bandkeramik farmers settled in the south-eastern part of the present-day Netherlands, whereas the northern and western areas remained settled by hunter-fisher-gatherers (Van Gijn/Louwe Kooijmans 2005). The distribution of LBK adzes indicates that some sort of exchange occurred between the two groups from the very start, although these implements have not been found in wetland context so far (Verhart 2000). The large nodule of Rijckholt flint and the LBK point found at the late Mesolithic site of Hardinxveld-Polderweg phase 1 (*c*. 5500-5300 cal BC) suggest that both groups must at least have been aware of each others existence. The character and intensity of their interaction is difficult to ascertain and will depend on the actual mechanism (exchange, actual mobility) by which these objects reached the wetlands (Vanmontfort, this volume; Louwe Kooijmans/Verhart 2007). Certainly interaction continued in subsequent periods and even seems to intensify, considering the distribution of the Rössener *Breitkeile* (Verhart 2000). In the western wetlands such evidence for contact is however scarcer (Vanmontfort, this volume).

It is not until the start of the Michelsberg period, around 4200 cal BC, that the neolithisation process in the wetlands really takes shape. Excavations at Hardinxveld-Polderweg and De Bruin have shown that the use of pottery and the keeping of livestock date to a much earlier time, (testified respectively at Hardinxveld-De Bruin phase 2 (5100-4800 cal BC) and phase 3 (4700-4450 cal BC) (Louwe Kooijmans 2001), but cereals are prominently absent. Also, the old traditions of hunting, fishing and gathering persisted. The first occurrence of cereals in these wetlands dates to *c*. 4200 cal BC, although recent data suggest that this date may have to be pushed back and it is still a matter of debate whether or not they were locally cultivated (Out, this volume). It is clear however that the Middle Neolithic A (4200-3400 cal BC) is the period during which the gradual neolithisation process, started in the preceding Early Neolithic B, is consolidated in the Rhine-Meuse delta. It is during this time that the inhabitants, under the influence of the Michelsberg culture, gradually change their life-style, but fishing and gathering continue to be very important in their subsistence pattern (Louwe Kooijmans 2006) and their technology continues to display 'Mesolithic' features (Van Gijn 2006a).

The two sites discussed in this paper date to the period of this gradual adoption of a new way of life by the wetland

inhabitants. The site of Brandwijk has produced a series of strata, the earliest of which, Layer 30, dates to 4610-4450 cal BC (the Early Neolithic B). However, in this paper I will concentrate on the finds from Layer 50 (top and base) with dates from 4220-3940 cal BC (Swifterbant culture, Middle Neolithic A) (Raemaekers 1999). The later site of Schipluiden, also dated to the Middle Neolithic A and belonging to the Hazendonk culture, was continuously occupied from 3650-3400 cal BC (Louwe Kooijmans/Jongste 2006).

17.4 Brandwijk

The site of Brandwijk is situated to the east of Rotterdam in an old riverine landscape and has been attributed to the southern group of the Swifterbant culture (Van Gijn/Verbruggen 1991; Raemaekers 1999). This a period for which we assume a subsistence pattern that has been labeled as extended broad spectrum: hunting, fishing and gathering, and domesticated animals with no or only very limited access to cereals. The excavation of the site encompassed the slope of the river dune and revealed a stratified series of refuse layers in the lower part of the slope and mostly colluvial sediments further up. The top of the dune has not been investigated so we know nothing of possible traces of habitation.

The flint industry of Layer 50 is characterized by the use of small rounded pebbles from which flakes and the incidental blade-like flake were struck. Many of these flakes still display cortex, indicating that the nodules were of limited size (fig. 17.1). Where exactly this flint could be obtained is not clear, but it resembles the material constituting the majority at the earlier sites of Hardinxveld-Giessendam (Van Gijn *et al*. 2001a; Van Gijn *et al*. 2001b) and the later site of Schipluiden (Van Gijn *et al*. 2006). Use-wear analysis of these implements shows that the flakes were predominantly used for scraping silicious plants, most likely reeds (fig. 17.1). A substantial amount of waste from the so-called metapodium production (Van Gijn 1990) has also been found here, as well as a number of bone awls, made with this technique. It is thus clear that bone tool production was performed locally, an inference supported by the fact that several flakes from local flint displayed traces from contact with bone. The bone awls were also studied microscopically and were used on plants, most likely grasses or reeds. Along with the flint flakes with transverse traces from scraping silicious plants, it is safe to conclude that the occupants of this location spent time making baskets and wickerwork.

In addition to the local flint technology we also found a number of tools made of mined Rijckholt flint (fig. 17.2). It concerns characteristic macrolithic Michelsberg tools such as large pointed blades, end-scrapers and triangular points. No production waste of these exotic flints was found so they must have been brought to the site as finished products. They are also substantially larger than the tools made of local flint. Remarkably many of these import tools displayed traces of

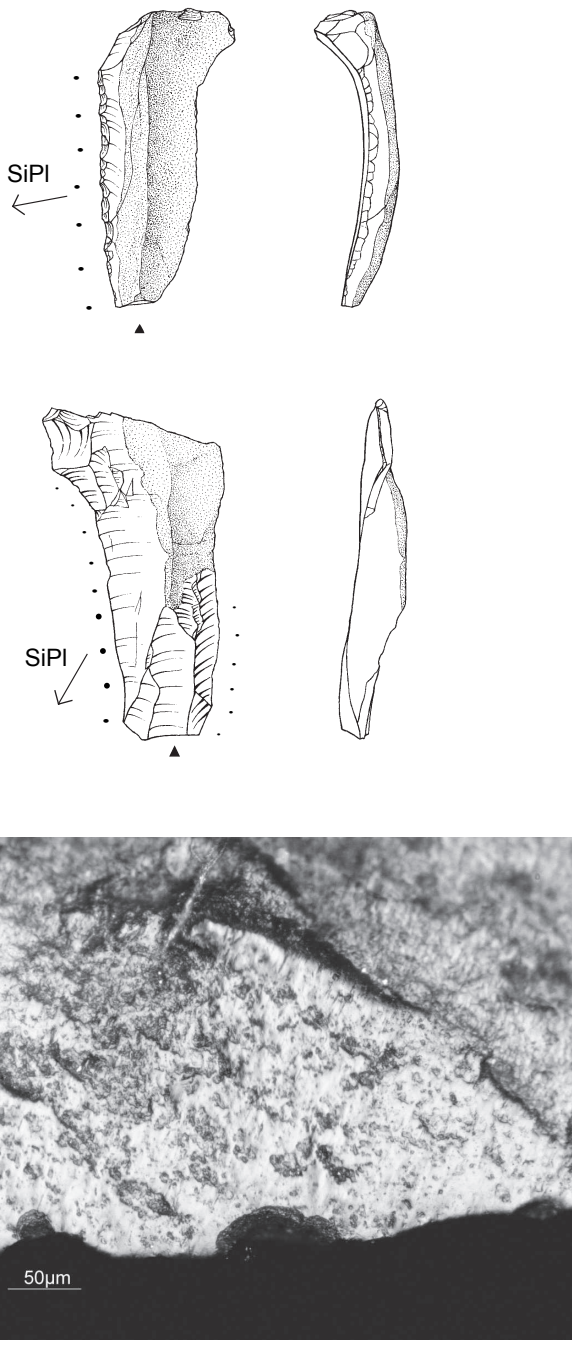
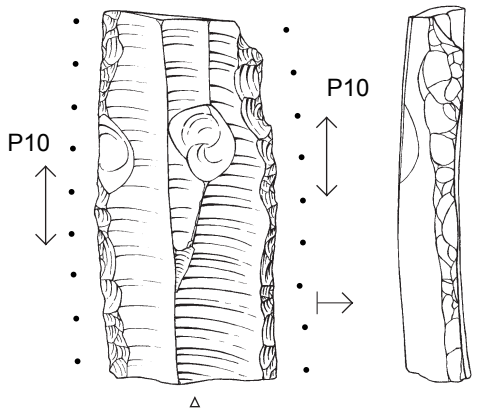
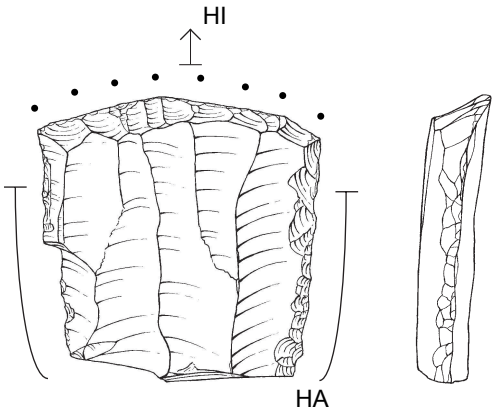
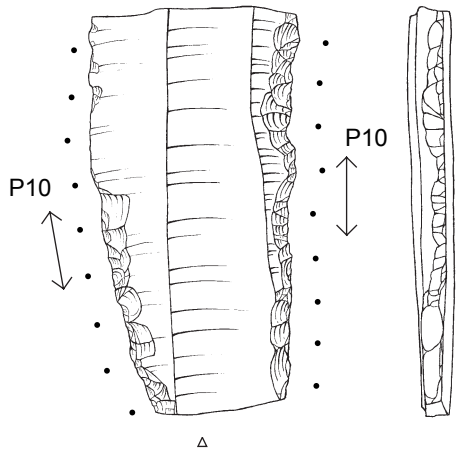
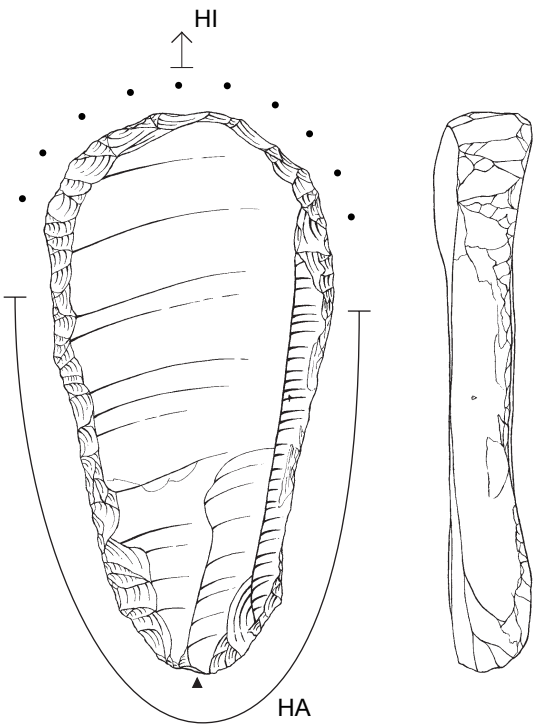


Figure 17.1 Brandwijk: tools of local flint (scale 1:1) (drawing C. Dijkstra), displaying traces from scraping silicious plants like *Phragmites* (original magnification 200×).









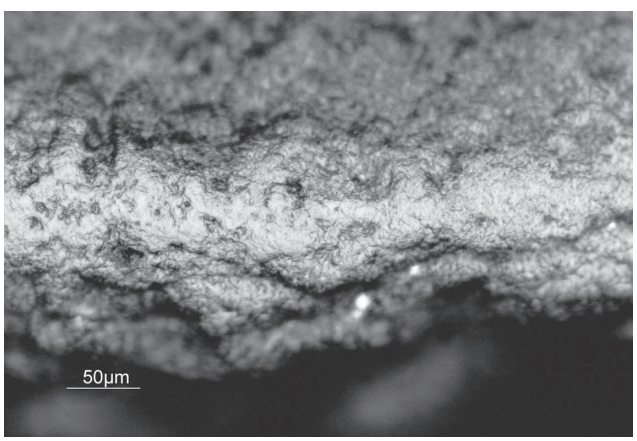


Figure 17.2 Brandwijk: tools made of exotic Rijckholt flint (scale 1:1) (drawing C. Dijkstra), with 'exotic' traces like 'polish 10' (above) and heavily developed hide working polish (below) (original magnification 200×).

use that are normally only found on tools in the loess zones and the Pleistocene uplands. This includes 'polish 10', a type of polish that displays attributes that resemble both hide and plant-working traces (fig. 17.2, above). This type of polish was first established for the Michelsberg site of Maastricht-Klinkers (Schreurs 1992), but has also been found on LBK artefacts (Verbaas/Van Gijn 2007b). Another tool, a large scraper, was probably heavily used for hide processing (fig. 17.2, below). The kind of hide-working traces suggests that it concerns the processing and currying stage of the hide working process, something we rarely see in coastal assemblages.

Because these 'exotic' traces only occur on the import material and because the tools do not seem to have been re-sharpened or used subsequently, it seems that the Rijckholt tools were brought to the delta in already used form. It is remarkable that no attempt was made to modify in any way these exotic implements. There is no evidence that they were put to some other secondary use once they arrived in the wetlands. Their functional life had occurred in their place of origin in the south-eastern part of the present-day Netherlands. Why had the inhabitants of Brandwijk not used these very usable tools for their own purposes, tools that (at least from our point of view) were much more apt for all kinds of tasks than the 'crappy little flakes' made of the locally available nodules?

I would argue that these tools of Michelsberg signature were not imported as used tools to *use*, they were imported as used tools to *keep*. The fact that these tools had a use-life before they were exchanged in it self may have had a significance. They probably were the possession of either a person or a specific group in their south- eastern place of origin. As such these tools can be seen as exchange items commensurable with their previous owners or users. The tools had already acquired a history that was relevant to the inhabitants of the wetlands: they link the occupants of the wetlands with the users of these tools in Michelsberg territory. The fact that the objects were preserved in the state in which they were received indicates that it was not so much the practical properties of the tools that were of concern to their recipients in the wetlands, but their value as exchange items. It seems like the inhabitants of the Brandwijk site wanted to affiliate or associate themselves with the agriculturalists of the Michelsberg culture. These stones were a token of this affiliation, but did not form part of the actual technological system of the wetland inhabitants.

17.5 Schipluiden

Around 3700 cal BC the wetlands were settled by people with pottery of the Hazendonk culture. We find a number of their sites in the well-researched microregion of Delfland, situated close to the present-day town of The Hague. Here three sites have been extensively excavated during the last 15 years: Ypenburg, Wateringen 4 and Schipluiden (Raemaekers *et al*. 1997; Koot /Van der Have 2001; Louwe Kooijmans/Jongste 2006), but additional traces of habitation from this period are present throughout this area (fig. 17.3).

The flint assemblage shows a similar pattern as the material from Brandwijk. At Schipluiden the majority of the flint artefacts were made on relatively small rounded pebbles, with occasional evidence for the use of a bipolar reduction strategy (Van Gijn *et al*. 2006, fig. 7.5). The same was observed for Wateringen 4 (Van Gijn 1997). Again, it is not entirely clear where these small nodules could be obtained but it must have been relatively close by. Just like in the preceding period we see, in addition to the local technology, the import of macrolithic tools of southern flint. This flint derived from various sources, such as Rijckholt/ Spiennes (these two are difficult to distinguish), Obourg and sources in the Hesbaye in Belgium (Van Gijn *et al*. 2006, fig. 7.3). These imported flint implements have a very clear Michelsberg signature and include triangular and leaf-shaped points, pointed blades and pointed scrapers. In contrast with the earlier site of Brandwijk, these exotic tools seem to have been imported in unused state, probably largely as finished implements. However, the presence of waste flakes and

Figure 17.3 Retouched flake of southern mottled flint deriving from a test trench at Rijswijk A4 (scale 1:1). This tool was clearly curated, with several used zones along the edges and evidence for intermittent re-sharpening (photograph J. Pauptit).

an incidental core of exotic flint indicates that exotic flint was also knapped on the Schipluiden dune (Van Gijn *et al*. 2006, table 7.2).

Use-wear analysis of the material from Schipluiden shows that the locally produced tools were used for a variety of tasks, including woodworking, plant cutting and cutting unidentified soft materials. In contrast, the exotic tools are all heavily used and frequently display traces of rejuvenation, although they are rarely exhausted (fig. 17.3). Remarkably enough however, they seem to have been selected for carrying out 'special activities' like the production of ornaments, making fire and harvesting cereals (Van Gijn *et al*. 2006). These three activities are labelled as 'special' because we have evidence for them to be so, either because of their special find context, or because of the treatment the tools have undergone before deposition.

Ornament making can be considered as special because beads and pendants constituted the predominant burial gift at the cemetery of Ypenburg (Koot/Van der Have 2001; Van Gijn in press b). In Schipluiden only one child burial contained ornaments: two unworn beads made of bird bone (Van Gijn 2006b). At this site we have found products from the complete production sequence of the making of jet ornaments, from unworked blocks of jet, to a beautifully polished bead (fig. 17.4). Four flint implements displayed traces resembling experimental jet-working traces. All four tools were made on exotic Belgian flint, the large reamer made of very mottled material being the most evocative example (fig. 17.4, below left).

Figure 17.4 Schipluiden: toolkit for producing jet ornaments containing a large reamer of mottled southern flint, a retouched knife used for cutting jet and several small borers (photograph B. Grishaver).

Another special activity is the making of fire. A large number of strike-a-lights was encountered at Schipluiden, many of which were made on exotic flint. The special significance of this type of tool is indicated by their presence in a remarkable grave found within the settlement area of Schipluiden. Grave 2 contained the skeleton of a 46-49 year old man, buried on his side with his legs flexed tightly to his body. In his hands, which were positioned in front of his face, he held three strike-a-lights and a nodule of pyrite (Louwe Kooijmans/Smits 2006; Van Gijn *et al*. 2006; Van Gijn/Houkes 2006), evoking the image of someone blowing a spark. This individual was given such a deviant burial ritual compared to other burials at this site and at the nearby cemetery of Ypenburg, that he must be interpreted as a person with a special role or position in society. Considering the presence of a fire-making tool kit in his hand, he may have been a religious specialist, maybe akin to present-day shamans. However, it should be noted that the strike-a-lights in the grave did not differ from the large number of such items found in the settlement: they displayed no evidence for special treatments. They were however, rather small compared to many other such tools, suggesting that it may concern personal items with a long use-life behind them. In the context of this paper it is also significant to note that this particular type of burial also occurs in LBK context, at the Aldenhovener-Platte and in Bavaria (Nieszery 1992). This further underlines the predilection of the Hazendonk people versus southern contacts.

The last 'special' activity exotic flint was involved in, is cereal harvesting (fig. 17.5). Only a handful of such tools have been found at Schipluiden, and the same pertains to Ypenburg (Van Gijn/Verbaas in press). The special significance of cereal harvesting is indicated by the evidence that implements involved in this activity seem to have undergone a very special treatment prior to their deposition: after their use as harvesting tool, the sickles were burned. Subsequently, their functional edges were damaged by intentional flaking. Last, the edges of some sickles were rubbed with an unknown red substance. Unfortunately we have long dismissed burned flint as being unsuitable for use-wear analysis, so we may have missed many more such examples. The intentional fracturing of objects usually has a ritual significance (Chapman 2000) and may be related to the wish to 'kill' an object that constitutes a danger for the community. In the case of the Hazendonk inhabitants of the dunes of Schipluiden and Ypenburg this wish may be related to the fact that these harvesting tools were involved in an activity that may still be circumspect to some extent: in order to harvest, the natural vegetation first had to be destroyed. It is these natural surroundings that still provided much of the food sources and raw materials needed to survive and which may also have been the residing place of spirits and

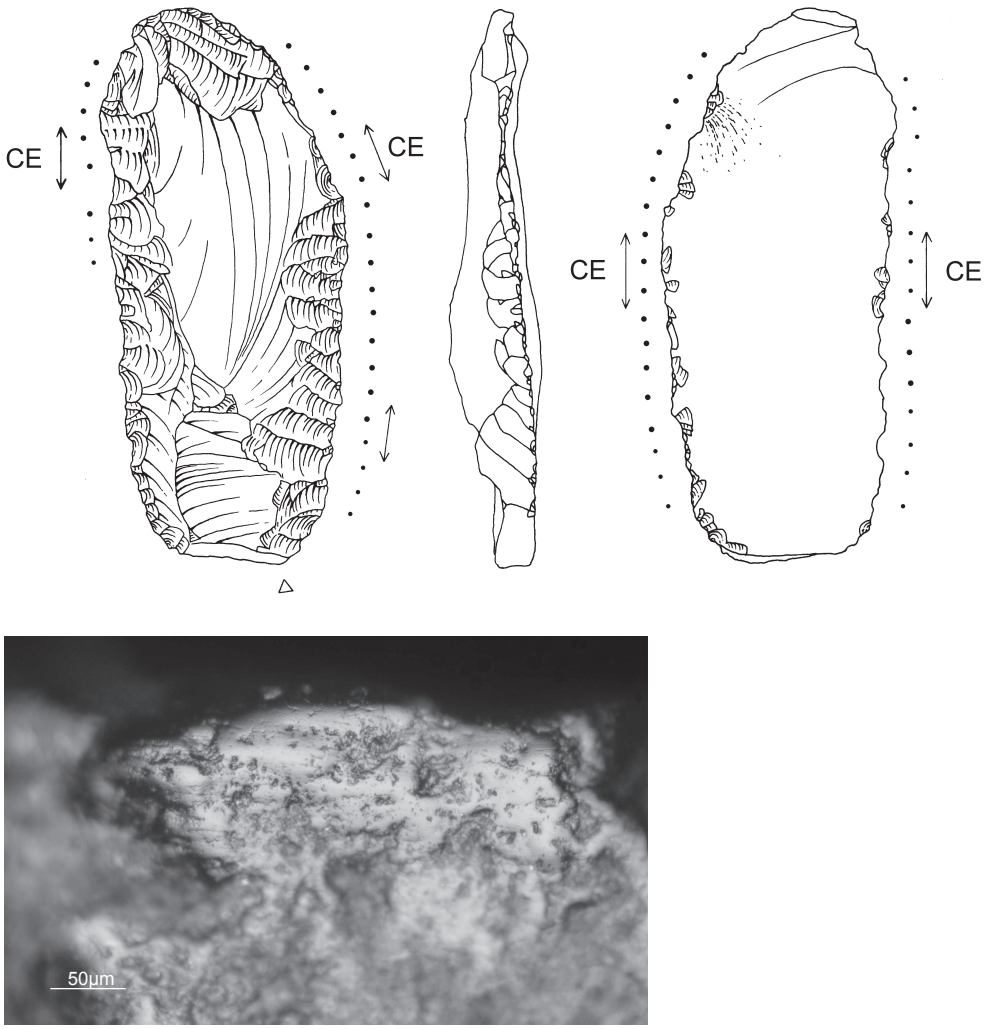


Figure 17.5 Schipluiden: cereal harvesting tool made of exotic flint and use-wear traces observed (original magnification 200×) (drawing R. Timmermans).

ancestors. Returning these harvesting tools to nature by ritually killing them, may be seen as a way to appease the ancestral spirits. This particular life cycle of harvesting tools indicates that they were surrounded by rituals and had a special significance to the society. We can observe a similar attitude to agricultural tools, notably the querns, in the LBK culture (Verbaas/Van Gijn 2007a).

The macrolithic Michelsberg tools were thus treated in a special way by the Hazendonk inhabitants of the wetlands. They were specifically selected for three activities that probably had a special significance to the past society. The tools were used intensively and displayed evidence for re-sharpening. It is important to note that they did not display traces that could be considered 'foreign': they had not been used previously for typical inland or 'Michelsberg' activities like hide scraping or the task responsible for the occurrence of 'polish 10'. Instead, they played a crucial role in activities that were highly important in the social fabric of the Hazendonk agents. These exotic tools thus formed an integral part of the technological system of the Hazendonk inhabitants of the wetlands.

17.6 Conclusion

Exotic flint tools of Michelsberg signature appear in the wetlands around 4200 cal BC. They reflect the continued exchange contacts between the inhabitants of the wetlands and the agricultural communities in the uplands, contacts that

probably date to the first colonization of the loess areas by LBK farmers. There is however a substantial difference in the way these exotic tools were treated between the earlier and the later phases of the Middle Neolithic A, represented by the sites of Brandwijk Layer 50, attributed to the Swifterbant culture, and Schipluiden (Hazendonk culture). The earlier, Swifterbant occupants of the wetlands obtained the macrolithic exotic tools as used objects. The objects were previously used for tasks that were typical for the uplands such as heavy hide processing and the activity responsible for the development of 'polish 10' (Van Gijn 1998). Such traces were prominently absent on the flint tools of local origin. The latter functioned in plant processing and bone tool manufacture. It is remarkable that the high quality exotic flint tools were not used in the wetlands (at least we see no evidence for this) and were also not re-sharpened. They were kept separate from the local technological system. It was argued above that the Swifterbant people kept this exotic flint as tokens of their affiliation or allegiance with the Michelsberg influence sphere.

The later Hazendonk agents also obtained exotic macrolithic tools from the south. Yet, they apparently no longer just kept Michelsberg implements as a gift or token of their allegiance to the larger Michelsberg identity sphere, but actually appropriated these implements and gave them a place in their own technological system. It is highly significant that they used these foreign tools for a very new activity like cereal harvesting and not for just any task. Other activities the imported tools were used for were fire making and the production of ornaments. These exotic tools evidently had a special status, to be used for activities that were ideologically significant. This indicates a change in attitude towards the Michelsberg farmers in the southeast: one from an affiliation with, to the appropriation of, a new identity. Flint constituted an important means of negotiating this new identity. To us as archaeological observers the use of exotic flint may thus be seen as reflective of the extent to which the neolithisation process had affected these wetland communities.

Hence, flint tools, even inconspicuous settlement material, played a role in the expression, negotiation and construction of a new identity. Because it can be obtained from afar, can easily be transported and is highly recognizable as exotic and thus special, it played an important role in symbolizing the long-distance networks of local groups. Flint is thus one of the materials that brought together communities from far and wide and was used to represent and structure the social relationships between these widely separated communities.

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