

SINGLE-EDGED SOCKETED URNFIELD KNIVES IN THE NETHERLANDS AND WESTERN EUROPE

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ABSTRACT: The Netherlands are situated at what in the Late Bronze Age was an interface between the Nordic, Urnfield and Atlantic interaction zones. However, reconstruction maps for these interaction zones by various authors show different dominant affiliations (*e.g.* Atlantic or Urnfield) for the Netherlands. Therefore, this study analyzes the Dutch single-edged socketed Urnfield knives as part of the larger data set on Dutch Late Bronze Age knives, placing them in their wider west-European context. In order to better characterize the distribution of types of socketed knives and their moulds, it is argued that a separate northwest-European production and interaction zone must have existed. Nonetheless, contacts remained with a core area of single-edged socketed knife production in the region of the French/Swiss lake-shore settlements, known as *palafittes*. In addition, analysis of knife contexts, such as their incorporation in graves, allows to further distinguish areas of different meaning attached to such knives within the larger regions defined by knife typology. Affinity to central-European Urnfield Culture groups is limited to shared decorative traditions. The centre of gravity for the production of single-edged socketed knives is situated decidedly west of the central-European Urnfield area.

KEYWORDS: the Netherlands, western Europe, Atlantic, Urnfield, Late Bronze Age, single-edged socketed Urnfield knives, double-T-handled knives, tanged knives, interaction zones, hoards, graves, stray finds.

1. INTRODUCTION

During the Late Bronze Age (Dutch chronology c. 1100–800 cal. BC (Fontijn, 2003: 10; Lanting & Van der Plicht, 2003: 132/133); French chronology *Bronze Final III* (Brun, 1984: 263; 1988: 599); UK chronology periods 5 (2nd half) to 7 (Needham, 2007)), the lowland areas of the Netherlands, Belgium and northwestern France formed the northernmost part of a wider cultural interaction zone that is generally labelled ‘Atlantic’. The Atlantic comprises the British Isles and the westernmost zones of Iberia and France (Coffyn, 1998: 173; Quilliec, 2007a: 43; Cunliffe, 2008: 257). This western interaction zone is distinguished from the ‘Urnfield’ or ‘North-Alpine’ interaction zone, which is reconstructed as having a more (south-)central European centre of gravity (Gimbutas, 1963: 830–3; Kimmig, 1964: figs. 17 and 19; Randsborg, 1992: 11 and 17; Harding, 2000: 97–101). Situated between the ‘Urnfield’ core-area and the Atlantic zone, various related but regionally distinguishable continental groups are postulated (*e.g.* Brun, 1986: 17–20). Remarkably, depending on the (geographical) reconstructions employed, the Netherlands are either well within the ‘Atlantic zone’¹, on the boundary², well within the ‘Urnfield’ and/or North-Alpine zone³ or left between the various regions altogether.⁴ In yet other reconstructions for the Late Bronze Age, an Atlantic/Continental divide is absent or replaced by a south-north sequence of culture areas that display a general east-west orientation.⁵

Interestingly, the present-day Netherlands, owing to their peripheral location, may specifically represent an area where the boundaries and interplay of such inter-

action zones can be studied (*cf.* Quilliec, 2007a: 122, fig. 60). Whereas traditionally sword and axe types have been used to define ‘Atlantic’ influence⁶, and pottery to define the ‘Urnfield’ region and its subzones⁷, various additional data sets may, and should, be used to better determine where (if at all, *cf.* Coombs, 1998: 153; Kristiansen, 2000: 22/23, 73; Needham & Bowman, 2005: 129) such (supra)regional entities can be delineated. Single-edged socketed Urnfield knives are a case in point. Are these knives indeed objects innately connected to a more central European ‘Urnfield’ interaction zone?⁸ And, if so, can the position of the region now known as the Netherlands be better understood in relation to broader Late Bronze Age interaction spheres by analysing their typology and find contexts? This study examines the data on Dutch Late Bronze Age knives, and more particularly the single-edged socketed Urnfield knives and their west-European counterparts, in order to increase our understanding of the geographical scope and particularities of the main Late Bronze Age interaction spheres. This first of all requires a brief discussion of the data set of single-edged socketed Urnfield knives under review.

2. GENERAL CHARACTERISTICS AND DISTRIBUTION

2.1. General characteristics

The numerous single-edged Urnfield knives of central and western Europe can be divided into knives with solid handles (tanged, *Griffzungen*, *Vollgriff* and double-T-handled

Table 1. Context and number of single-edged socketed Urnfield knives by country of origin.

| Country | Hoard | Grave | Stray | Dredge | Settlement | Palafitte | Cave | Unknown or not reliable | Total |
|----------------|-----------------------------|-------|-------|--------|------------|-------------------------|------|-------------------------|-------|
| Netherlands | 6 ex. from 5 hoards | 1 | 11 | 1 | 1(mould) | - | | - | 20 |
| Germany | 13 ex. from 10 hoards | 12 | 9 | 2 | 1(mould) | - | | 5 | 42 |
| Belgium | - | - | - | - | - | - | 10 | 1 | 11 |
| Denmark | - | 2 | - | - | - | - | - | - | 2 |
| Austria | - | 2 | - | - | - | - | - | - | 2 |
| Poland | 1 | - | - | - | - | - | - | 1 | 2 |
| France | 19 ex. from 15 hoards | - | 8 | 9 | - | 36 (1 half mould) | - | 1 | 73 |
| Switzerland | - | - | - | - | - | 24 (2 moulds) | - | 11 | 37 |
| Bohemia | - | - | 1 | - | - | - | - | - | 1 |
| Italy | - | 2 | - | - | - | - | 1 | - | 3 |
| Ukraine | 1 | - | - | - | - | - | - | - | 1 |
| United Kingdom | - | 1 | 1 | - | - | - | - | 3 | 5 |
| Total | 40 | 20 | 30 | 12 | 2 | 63 | 11 | 21 | 199 |

knives; *cf.* Hohlbein, 2008) and knives with a socketed haft. Generally, the single-edged tanged Urnfield knives significantly outnumber the socketed knives in any given country. In the Netherlands, however, a remarkable number ($n=19$) of single-edged socketed Urnfield knives have been found. Several of these knives were discussed earlier by the first author (Butler, 1968/69; 1986). In 1986, the number of known single-edged Urnfield socketed knives in the Netherlands amounted to sixteen (Butler, 1986: 146), while another fifteen were known from the much larger adjacent area of northern Germany (Prüssing, 1982: 142–8). At present, we know of nineteen single-edged socketed Urnfield knives in the Netherlands, and a single mould for knives of this type (table 1).

Single-edged socketed knives are cast knives with a single-edged blade connecting to a hollow hilt section, that once held an organic handle (extension). Generally, the knives are made of bronze, albeit that there are two examples of composite knives, with iron blades cast into bronze hilts (Montelius, 1903: 317; Prüssing, 1982: 143, 146) and a few fully iron knives identical to the bronze examples are known as well (*e.g.* Gomez de Soto & Kerouanton, 2009: 503). All Dutch single-edged socketed Urnfield knives are cast in bronze.

The sockets of the knives from Onstwedde and Denekamp (table 3, nos. 4; 12) have preserved remains of handles of deer antler and wood, respectively.⁹ Only rarely are knives found with socketed, composite handles with a bronze terminal capping the distal end of the organic handle (*e.g.* Stadecken; Hohlbein, 2008: 319; *Taf.* 44, 77). Based on the handle length of contempor-

aneous *Vollgriffmesser* (Hohlbein, 2008: *Taf.* 1–6) and *Griffzungenmesser* with terminal loops (Type Baierdorf, variant Haag; Hohlbein, 2008: *Taf.* 36), an overall handle length of 9 ± 2 cm seems plausible. The still hafted knife from Lac du Bourget held a (perforated) wooden handle extending 5.7 cm from the bronze socket, creating an overall length of 9.2 cm for holding the knife (Kerouanton, 2002: 542).

While evidently functional tools¹⁰, the sometimes elaborate decoration of some examples suggests an additional function as display items. The fact that several single-edged socketed knives were selected for deposition in peat bogs, stream valleys and rivers, or accompanied the dead as funerary gifts (table 1), hint at an importance for some of such knives that transcended the merely functional. Despite the undoubted diversity of past perceptions of these knives, their distribution pattern testifies to a widespread popularity (fig. 1).

2.2. Distribution

The analysis of the distribution patterns for knives of this type in areas directly adjacent to the Netherlands has benefited much from the study by Hohlbein (2008). In 2006 Martin Hohlbein, then of the University of Münster (Westfalen, Germany) as part of his PhD dissertation performed a study of the then known bronze single-edged socketed Urnfield knives of Germany. His study (Hohlbein, 2008: 318–342, *Taf.* 45–49) lists twenty examples of such knives on the German side of the border, fifteen of which were already known to Prüssing in 1982.

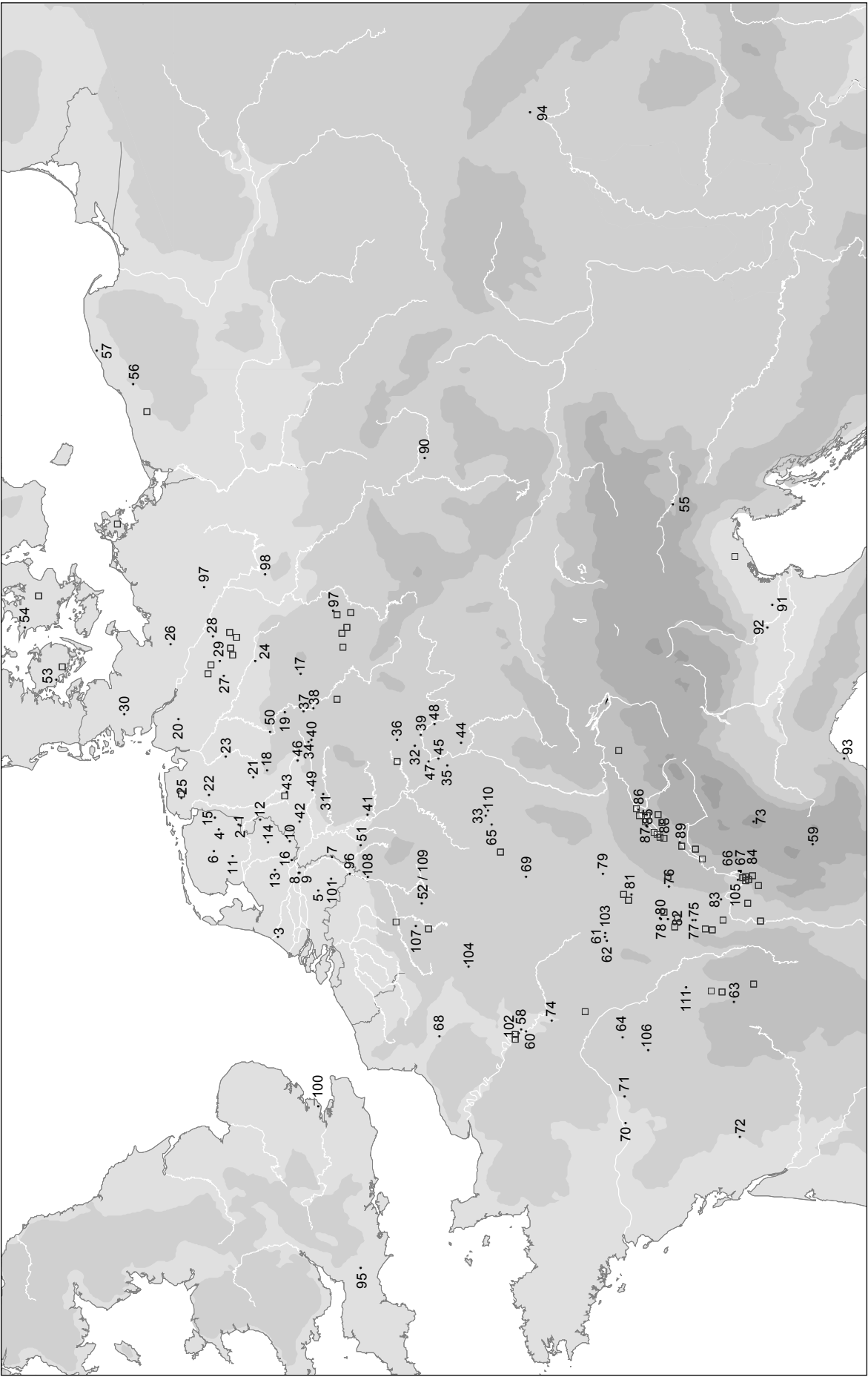


Fig. 1. Distribution of Urnfield-period single-edged socketed knives in northwestern Europe. Numbers correspond to findspots listed in table 3. Open squares in half-tone grey represent approximate findspots of single-edged socketed Urnfield knives taken from previously published maps by Sprockhoff (1950), Hundt (1978) and Ruoff (1974), but for which no details or figures have been published. Drawing: S. Arnoldussen.

For other parts of western Europe, the present authors used the publications of Thrane (1972), Říhový (1972), Bianco Peroni (1976), Rychner (1979), O'Connor (1980), Gedl (1984), Mariën (1984), Jiráň (2002) and various articles in *Atelier* 3 (1998).

Distribution maps of socketed, single-edged Urnfield knives had previously been presented by Thrane (1972: 209, fig. 18) and Hundt (1978: 141, fig. 12). Since neither of these maps identifies the findspots plotted, we must take their accuracy at face value. With these publications, and Hohlbein's kind cooperation, it was possible to compile a list (table 3) and a distribution map (fig. 1) of the finds of single-edged socketed Urnfield knives, which now cover 199 examples from 110 findspots. While this list is undoubtedly incomplete, it is at least indicative of the areas in which the single-edged socketed Urnfield knives were current. Socketed-knife finds of which no published illustration could be found, have been omitted.

The general distribution pattern (fig. 1) already shows that the single-edged socketed Urnfield knives are not centred on the Central European Urnfield area. Two examples from the Baltic coast of Poland are known (Gedl, 1984: *Taf.* 15:145-146), and one from Bohemia (Jiráň, 2002: 63), albeit that the latter may be an imported specimen. Jockenhövel (1980: *Abb.* 1:1-4) published four examples from the United Kingdom, but for only one (Ham(don) Hill, Somerset) an exact findspot was known. To these British finds, the socketed knife from the hoard of Barling, Essex, can be added (Crowe, 2004: fig. 3, no. 10). Before the Dutch data set is reviewed, the parameters underlying the classification of this artefact type need to be clarified.

3. CLASSIFICATION

Hohlbein (2008: 325-7) has cogently reviewed the history of research and previous typological studies of Urnfield-period single-edged socketed knives (which

therefore is not repeated here) and argues that several older typological categories either are too reliant on cutting-edge morphology (and hence vulnerable to alteration by resharping) or comprise as yet too few specimens to be considered reliable. His study therefore reduces the number of single-edged socketed Urnfield knife types to three (type Rheda-Wiedenbrück, type Han-sur-Lesse and type Nazari; Hohlbein, 2008: 327). The former two types respect and reflect the subdivision proposed earlier by Butler, who had suggested (1986: 164, note 6) that while "...it is difficult to cite features on socketed knives that occur in the north and not in the West Swiss/East French area, it is perhaps worth calling attention to a converse point that has practically been overlooked in the literature. The junction between blade and socket can take two different forms. The first we can call Form V: the socket is externally projected into the back of the blade. The other can perhaps be called Form T: the cone is truncated where it joins the blade". His type Rheda-Wiedenbrück is thus of 'T-form', his type Han-sur-Lesse, of 'V-form' (Hohlbein, 2008: 327). These different forms of blade-socket junctions are illustrated in figure 2.

Besides being grouped into one of Hohlbein's three main socketed knife types (see above), the knives now under study offer few other aspects (besides decoration; section 5.1) to allow a more detailed classification. In other words, the morphology of single-edged socketed Urnfield knives is fairly uniform. However, detailed study and enlarged data sets may in the future allow delineation of additional groups, based on – evident, yet too infrequently documented – traits, such as high-arched blade backs (e.g. table 3, nos. 48, 55, 68, 71), faceted blades (e.g. table 3, nos. 52, 71, cf. no. 36) or cutting edges that curve back towards the hilt (e.g. table 3, nos. 15, 62, 73, cf. nos. 53, 96). Knives with blades that curve moderately (e.g. table 3, nos. 49, 57) or strongly upward (e.g. table 3, no. 54, cf. the tanged knife from Kemnitz; Prüssing, 1982: *Taf.* 33) may also eventually turn out to form distinct (sub)categories.

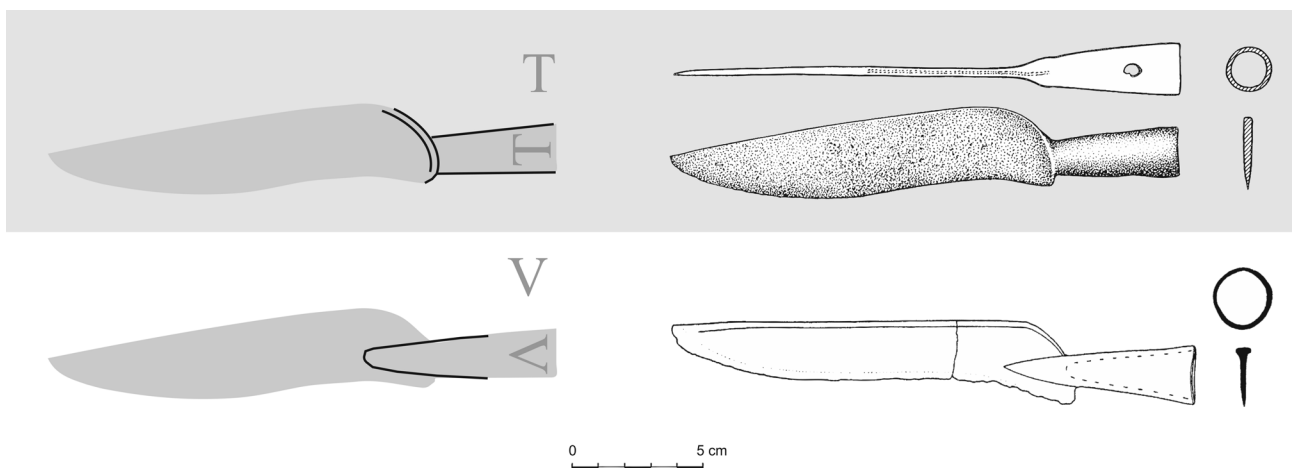


Fig. 2. Schematic outlines (left) and examples (right) of T-form junctions and V-form junctions. Top: illustrated by the knife from Goor (NL; DB1651) Bottom: illustrated by the knife of Saint-Genès-Champanelle à Manson (F; Milcent, 1998: 60 and fig. 3:19).

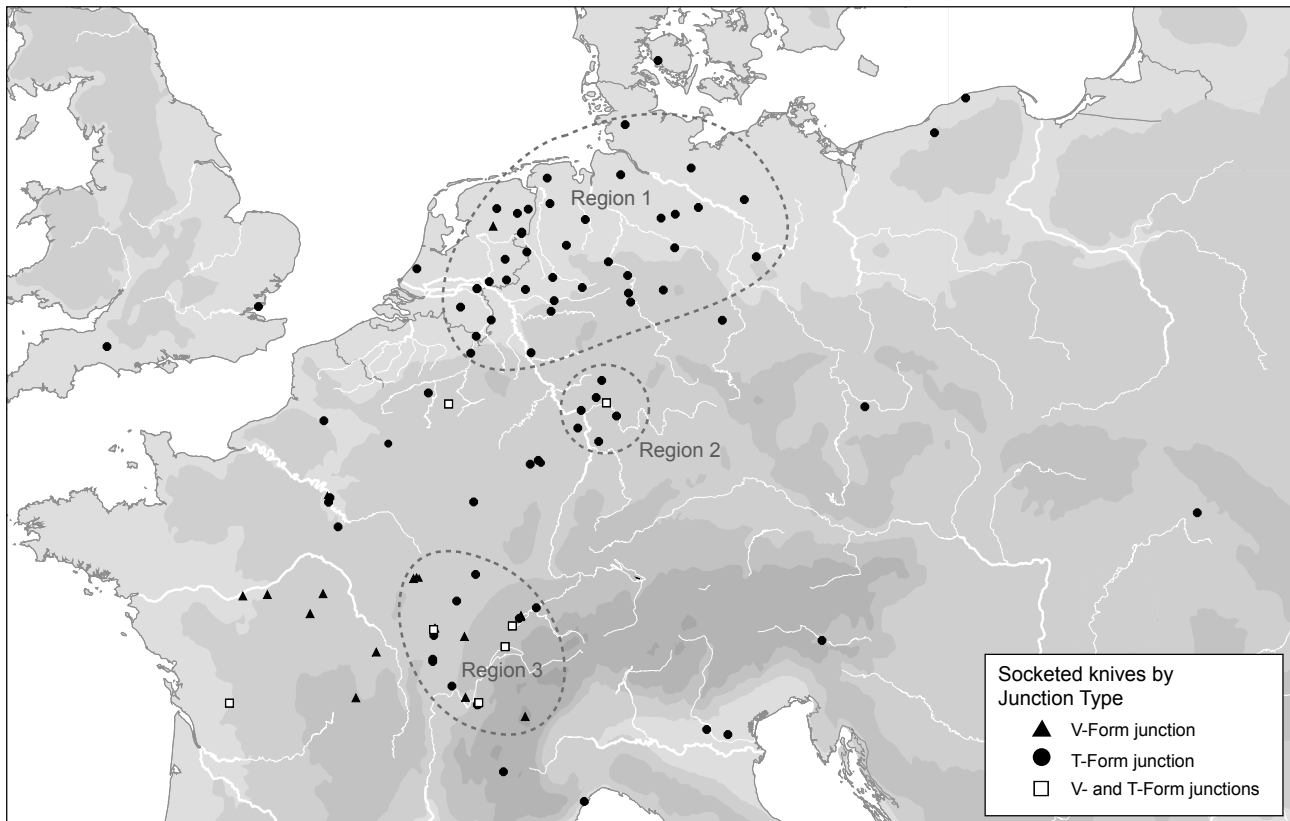


Fig. 3. Distribution map of single-edged socketed Urnfield knives by junction type. Locations of 'Regional analysis groups' also indicated. Drawing S. Arnoldussen

On the basis of the differences in socket junction and the overall distribution map, a differentiation into three regions can be outlined (fig. 3). Whereas the northern Region (1) with only one exception (table 3, no. 11) is dominated by T-form junctions, their distribution is not limited to – and consequently not necessarily determinative for – this region. T-form junctions are dominant also in Region 2 (the Main-Rhine area, again with a single outlier; table 3, no. 39) and quite current in Region 3 (the Swiss/French *palafitte* area). However, the distribution of V-form junctions, except for four outliers (see above and table 3, no. 52), appears confined to Region 3 and, west of it, to central France south of the river Seine. To put it more succinctly: V-form junctions rarely occur in western Europe north of the river Seine.

Only three sites north of the French river Seine contained V-form junction knives (fig. 4, nos. 11, 39, 52, 109), while they are commonly found to the south of it. In the *palafittes*, V-form junction knives occur often in combination with T-form junction knives (e.g. the eight V-form and one T-form junction knives of Morges, Grand Cité, on the *Lac Lemán* (Fischer, 2010: 42; pers. comm. August 2011)). In the Netherlands, a V-form junction knife was found in the hoard of Havelte-Het Lok, which was a deposition – discovered by ploughing – in a low-lying possibly marshy area that comprised two socketed axes, a casting jet and the socketed knife (fig. 4,

no. 11; Butler, 1986: 162, fig. 29). The combination of a distinctly local type of socketed axe (Hunze-Eems type; Butler & Steegstra, 2003/04: 267, fig. 91A) with a definitely non-local type of socketed knife in this hoard (fig. 9, top row) was quite significant.

The two other outliers represent sites where knives of both T- and V-form junction are found. Located in the Belgian Ardennes, between the rivers Meuse and Ourthe, the cave site of *Han-sur-Lesse* yielded seven V-form knives (fig. 4, no. 52) and three T-form knives (Mariën, 1984: 383–392). From the area studied by Hohlbein, only a single knife of V-form junction is known from the Hochstadt hoard (fig. 4, no. 39; Hohlbein, 2008: *Taf.* 50, no. 389; the earlier drawing by Kibbert (1984, *Taf.* 94) did not yet show this detail), in which it was accompanied by, amongst other items, two T-form socketed knives and a rod-tanged knife (Kibbert, 1984: *Taf.* 94; Hohlbein, 2008: *Taf.* 46, 50). The majority of V-form junction socketed knives originate from the French Alpine area (Mordant, Pernot & Rychner, 1998; table 3). Their numbers and distribution (fig. 3), however, remain an underrepresentation, as only illustrated examples were incorporated into the present data set (table 3). In the following, the Dutch data set of single-edged socketed Urnfield knives will be presented first, after which a discussion of their decoration, dating and supra-regional affinities is undertaken.

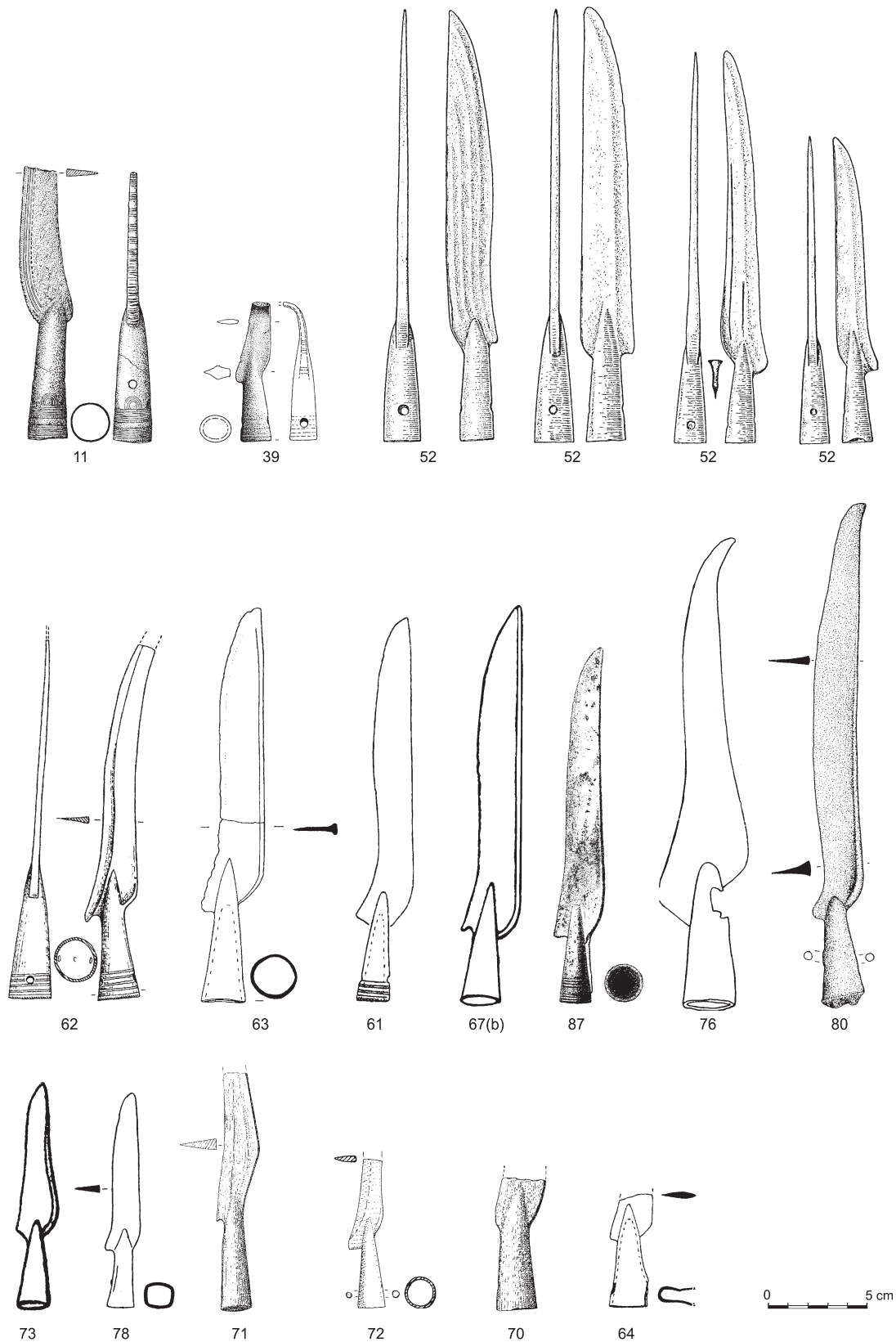


Fig. 4. Examples of V-form junction knives from various countries (only no. 11 is from the Netherlands). The numbers correspond to the map of figure 1 and table 3, where details regarding their original publications can be found.

4. CATALOGUE OF SINGLE-EDGED SOCKETED URNFIELD KNIVES IN THE NETHERLANDS

The corpus of Dutch single-edged socketed knives in the Netherlands is relatively large (compared to that of neighbouring countries; table 1), and moreover reflects the occurrence of such knives in low-lying contexts such as peat-bogs, streams and rivers, as well as in (hoards and isolated finds in) sandy upland areas. As yet, however, only a single knife has turned up in a grave in the Netherlands, although such usage is better known from adjacent Germany¹¹, where their association with hanging vessels suggests that they belonged to women of the ‘well connected’ or ‘upper’ social echelon.¹² In the absence of gender-specific funerary data in the Netherlands, we can only speculate as to who owned socketed knives here.¹³

That the knives were actually used is evident from the concave blade edge on the Drouwenerveld knife (fig. 5, no. 15), which is the result of frequent sharpening. The blades of the Schoonebeek (fig. 6, no. 2), Onstwedde (fig. 6, no. 4), Weper/Haule (fig. 6, no. 6) and Denekamp knives (fig. 6, no. 12) were still remarkably sharp. Repairs, such as the reworked (shortened) sockets of the Schoonebeek knives (fig. 5, no. 1b) demonstrate that socketed knives were sufficiently valued for them to undergo maintenance and repairs.¹⁴ The blades of the socketed knives were particularly vulnerable, as parts of the tips or the top halves of the blades of various knives had broken off in antiquity (fig. 5). The mould from Someren-Waterdael III suggests that new examples may have been cast in the Netherlands as well (Kuijpers, 2008: 145/146).

Remarkably, the knives selected for deposition did not need to be in pristine condition. Rather, the hoards of Havelte (upland; fig. 9), Elsenerveen (peat; fig. 9) and Drouwenerveld (upland; fig. 9) all contained knives whose blade tips had (already) been lost or removed. For these knives, their (attributed) supra-local origin, affinity or connotation – as signified by their decoration and/or V-junction (see above) – rather than their functionality may have been of paramount importance in the selection of items for deposition (*cf.* Fontijn, 2003: 182, 218). The socketed Urnfield knives originating from Dutch hoards, as well as a single example from a funerary context, are described below.

4.1. Single-edged socketed Urnfield knives from hoards and graves

No. 1a. SCHOONEBEEK, GEMEENTE SCHOONEBEEK, DRENTHE (fig. 5 and 9) from a hoard

L. 29.6 (blade 23; socket 6.6) cm. Long blade of triangular cross-section, of ‘Halstatt B’ form. Incised ornamentation XIIIIX on the back (motif 7 of Thrane, 1972); cutting edge slightly narrow; four broad ribs around the socket mouth. The ornamentation is pierced by peg-holes. Rijksmuseum van Oudheden (RMO) Leiden, Inv. No. c.1894/11.1 (DB 1631).

From a hoard containing two socketed axes (cat.nos. 608, 691), two socketed Urnfield knives, a pegged spearhead, and a socketed ornament.

For more details see Butler & Steegstra, 2003/04: 211 and fig. 49, 254–5 and fig. 84b, 269 and fig. 91D.

No. 1b. SCHOONEBEEK, GEMEENTE SCHOONEBEEK, DRENTHE (fig. 5 and 9) from a hoard

L. 18.2 cm. Central European Urnfield HaB knife; single-edged, hump-backed; two rivet-holes in socket. Blade of T-section. Socket was originally longer, but was shortened in the course of repair. Patina: black, glossy. Museum Assen, Inv.no. 1894/XII.1b (DB 1176)

Find circumstances: found 10 June 1894 by A. Ellen and B. Geuchien, in a meadow belonging to B. Wilms of Schoonebeek, 50 cm beneath the surface, at the base of a layer of peat or ‘darg’ on the underlying sand in “Cadastral Section A, No. 2495, about 50 m S. of dwelling No. 2494”.

Map reference: Sheet 22F, 256.7/521.83.

No. 11. HAVELTE, GEMEENTE HAVELTE, DRENTHE (fig. 5 and 9)

L. 13.7; external diam. of socket 2.0 cm; diam. of peg-holes 0.4 cm, blade of triangular cross-section, with strongly curved back; the blade ornamented with pointillé and incised lines and a line of crescentic punch-marks parallel to the back; transverse lines on back. Conical socket, with peg-holes at top and bottom; base of socket ornamented with two groups of encircling incised lines separated by a broad rib, and groups of concentric arcs. Patina: semi-glossy, blackish. Blade broken in antiquity. Socket cracked. Modern file scratches on surface. Museum: Museum Assen, Inv.no. 1872/I.16. (DB 1844)

From a hoard, which further contains two socketed axes (cat.nos. 663 and 689), and a casting jet. For more details see Butler & Steegstra, 2003/04: p. 239 and fig. 76, p. 255 and fig. 84a, p. 269 and fig. 91A.

Find circumstances: found before 1872 by F.J. Meeuwes of Havelte, while ploughing a field near a pool called ‘Het Lok’, in sandy soil.

Map reference: Sheet 16H, 211.30/530.50

Documentation: Letter from W.B. Boeles (Museum Assen) to C. Leemans (RMO Leiden) of 30 December 1872 (RMO *ontvangen brieven* 1872: No. 80); accompanied by a pencil drawing by B. Kymmel (published in Butler, 1961a: *Bijlage* I, Pl. IV).

References: Butler & Steegstra, 2003/04: 239 and fig. 76, 255 and fig. 84a, 269 and fig. 91A and references therein.

No. 13. BRUGGELEN, GEMEENTE APELDOORN, GELDERLAND (fig. 5 and 9)

L. 7.4; w. 1.8 cm. Fragment of a socketed single-edged knife of ‘Urnfield HaB’ type. Patina: dark green, partly brownish. Museum Het Valkhof, Nijmegen? Inv.no. GAS 1958-2-11. (DB 34)

From a hoard found before 1940 on the Bruggelen estate, 5 km south of the centre of Apeldoorn, which further contains one complete and three fragmented omega bracelets, a socketed axe (cat.no. 600) and a small rod. For more details see Butler & Steegstra, 2007/08, 392–4, fig. 10.

Documentation: e-mail message from L. Swinkels (Museum Het Valkhof, Nijmegen) to the authors, 18 June 2007.

Map reference: Sheet 33B, c. 191/465

References: Butler, 1965: 175, 178 (20), fig. 11; Butler & Steegstra, 2007/08, 392–4, fig. 10.

No. 14. ELSENERVEEN, GEMEENTE MARKELO, OVERIJSEL (fig. 5 and 9)

L. + 9.2 cm (length of socket 5.2/6.4 cm); diam. of socket mouth 1.8 cm. No decoration. Most of blade broken off and missing; humped back.

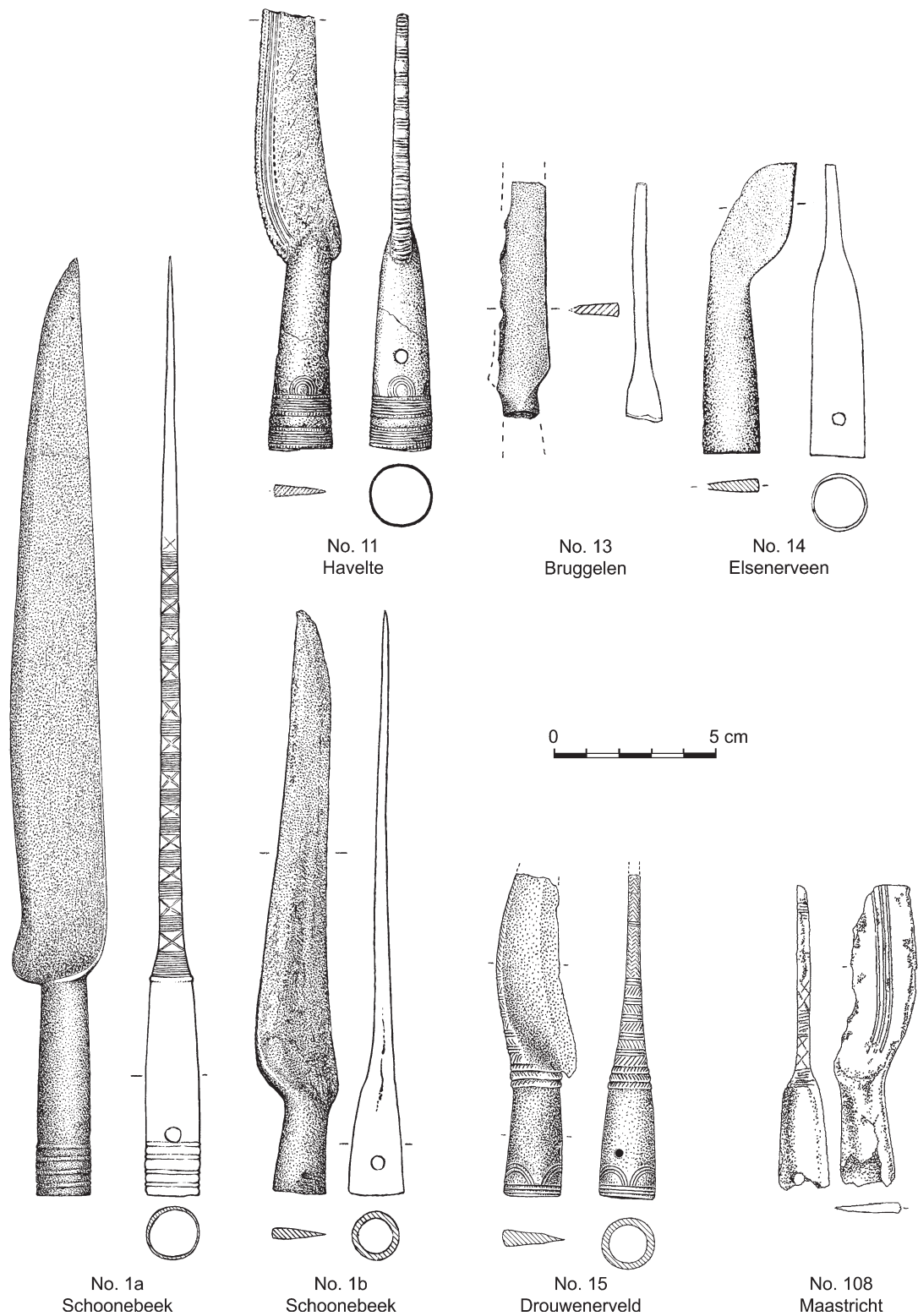


Fig. 5. Dutch Urnfield-period single-edged socketed knives from hoards and graves. The numbers correspond to the map of figure 1 and table 3, where details regarding their original publications can be found.

Conical socket with two peg-holes; base of socket very thin on one side where part broke away in antiquity. RMO Leiden, Inv.no. d 1942/12.5. Patina: dark brown. (DB 498) Found in peat, before 1885, together with three socketed axes (cat.nos. 536, 631 and 710). For more details see

Butler & Steegstra, 2001/02: 296 and fig. 25a; 2003/04: 222–3 and fig. 62, 263 and fig. 89, 269 (fig. 91C).

Map reference: Sheet 28d, c. 231/476.5

References: Butler & Steegstra, 2003/04: 222–3, fig. 62, 263, fig. 89, 269, fig. 91C and references therein.

No. 15. DROUWENERVELD, *GEMEENTE BORGER, DRENTH* (Hoard of 1984; fig. 5 and 9)

L. + 10 cm; width 1.4/1.9 cm. Single-edged socketed Urnfield knife with truncated-conical socket; peg-holes on top and bottom. Blade with curved, blunt-rounded back. Incised decoration at base of socket, at junction of blade and socket, and on blade back. The cutting edge is barbed at its base. The tip of the blade was broken off in antiquity (patinated break). The lower part of the blade is slightly concave from (re-) sharpening. *Patina*: dull green, somewhat encrusted with sand cemented by iron pan. Museum: Museum Assen, Inv.no. 1984/XII.30 (DB 760) From a hoard also containing an intact socketed axe; a tanged knife; a collar; and fragments of socketed axes, spearheads, knives, *tutuli*, buttons, sickles, punches, bracelets, wire fragments, ribbed tubes and some miscellaneous fragments. Found in a pot with a single, small, D-shaped handle.

Map reference: Sheet 12G, 248.8/552.5

References: Butler & Steegstra, 2003/04: 268, fig. 90 and references therein.

No. 108. AMBY, *GEMEENTE MAASTRICHT, LIMBURG* L. + 9.4; w. 2.1; diam. socket: 1.7 cm. Single-edged socketed Urnfield knife with T-junction. Tip of blade and socket part below peg holes broken off in antiquity. Brittle due to burning on pyre? Decoration: three horizontal grooves in blade, XIIX motif on back of the blade.

Find circumstances: Found autumn 2009 - spring 2010 during an excavation by the Bureau voor Bouwhistorie, Archeologie, Architectuur-historie en Cultuurhistorie (BAAC) of the urnfield Ambyerveld in cremation grave with urn. Urn also contained a burnt 'Variante Dietzenbach' (Jockenhövel, 1971: 109) razor. Collection: BAAC, 's-Hertogenbosch. Drawing: P. Dijkstra.

Map reference: Sheet 69A, 179.2/319.6

References: Dyselinck & Warmenbol, 2012: 59–61.

4.2. Single-edged socketed Urnfield knives: stray and dredge finds

No. 2. SCHOONEBEEK, *GEMEENTE SCHOONEBEEK, DRENTH* (fig. 6)

L. 21.1 cm. Single-edged socketed Urnfield knife with hump-backed blade of triangular cross-section; truncated-conical socket, with peg-holes top and bottom. Incised and *pointillé* lines at base of socket and on back of blade. Cutting-edge concave, razor-sharp. *Patina*: blackish (most of it mechanically removed). Well-preserved, but the cutting edge slightly damaged, surface finely pitted and scratched. Found 17 Oct. 1907 "while digging for iron ore, on a parcel of W. Lünemann of Rüter Trist, on the southeastern border of Drenthe with Hannover, close to boundary post 156 at a depth of 50 cm".

Museum: Museum Assen, Inv.no. 1907/XI. 3. (DB1190).

Map reference: Sheet 22F, c. 256.29/519.54

References: Butler, 1986: fig. 27.4; Essink & Hielkema, 1997/98: 311, no. 269.

No. 3. VOORSCHOTEN, *GEMEENTE VOORSCHOTEN, ZUID-HOLLAND* (fig. 6)

L. 19.8 cm. Round socket mouth, diam. 2 cm. Undecorated single-edged socketed Urnfield knife, tip of blade slightly bent. Found near the Roman-Catholic church on the easternmost coastal barrier, at a depth

of c. 2 m. Gemeentemuseum, Den Haag, Inv.no. 26-55, ex coll. Chr. Eggink. (DB1355).

Map reference: Sheet 30H, c. 91.187/460.627.

References: De Wit, 1964: 5, fig. 4; Butler, 1986: fig. 27:3.

No. 4. ONSTWEDDE, *GEMEENTE STADSKANAAL, GRONINGEN* (fig. 6)

L. 20.8 cm; w. 2.3 cm; socket length 6.4 cm; round collar 2.2 (external diam.) and 1.9 (internal diam.) cm, with three ribs around its mouth. Peg-holes diam.: 0.5 cm. *Patina*: glossy brown, matt green where surface has flaked. Remnants of deer antler in socket. Blade bent, but sharp, recently broken. Groninger Museum, Groningen, Inv.no. 1964/VII.11. Found during ploughing of a plot on the western bank of the Mussel Aa stream, in the Hidsmeden area, 2 km SW of Onstwedde. (DB1390).

Map reference: Sheet 13C, 265.93/559.77

References: Butler, 1986/87: 222, fig. 102; Essink & Hielkema, 1997/98: 311, no. 270.

No. 5. ST. OEDENRODE, *GEMEENTE ST. OEDENRODE, NOORD-BRABANT* (fig. 6)

L. 19.5 cm (socket length 4.3/4.7cm); socket mouth 2.2x2.1 cm. Perf. 0.5 cm (keyhole-shaped owing to a casting defect) and oval 0.7x0.6cm. Urnfield socketed knife. *Patina*: mostly light green in pitted surface; has been partially 'cleaned' (esp. outside of socket, blade tip): dark bronze to blackish. Heavily corroded. Museum, 's-Hertogenbosch, Inv.no. 23. Original find context unknown. (DB1405).

Map reference: Sheet 51E, 396.8/160.8.

References: Hermans, 1865: 141, Pl. XX:7; Butler, 1986: fig. 26:3.

No. 6. HAULE/WEPER, *GEMEENTE OOSTSTELLINGWERF, FRIESLAND* (fig. 6)

L. + 16.2 cm. Single-edged socketed knife. Long blade with rounded back, of triangular cross-section, two peg-holes. Blade sharp (tip of blade missing). *Patina*: clean. Found 1935 during widening of the river Kuinder between Haule and Weper. Fries Museum, Leeuwarden, Inv.no. 218-44, purchased December 1935 from Popping. (DB1423).

Map reference: 11H, c. 217/560.

References: Byvanck, 1946: *afb.* 40; Boeles, 1951: 52 ff, Pl. VII:3; Butler, 1986: 168, fig. 26; Fokkens, 1991: 196; Essink & Hielkema, 1997/98: 311, no. 272.

No. 7. VENLO, *LIMBURG* (fig. 6)

L. 14.8 cm. Socket mouth 2.8x2.0 cm. Small, undecorated socketed Urnfield knife with cracked socket. Museum: Maastricht, Inv.no. 2434, formerly museum Venlo, Inv.no. 23. Original find context unclear; found 'near Venlo'. (DB1450).

Reference: Butler, 1986: fig. 27:1.

No. 8. *GEMEENTE NIJMEGEN, GELDERLAND(?) Dealer's provenance* (fig. 6)

L. 15.8 cm. Round socket mouth, 1.7x1.8 cm. Small, undecorated socketed Urnfield knife. Museum Het Valkhof, Nijmegen. Inv.no. 4.1947.4. Original find context unknown; purchased from antiques dealer Esser. (DB 1586).

Reference: Butler, 1986: fig. 26:1.

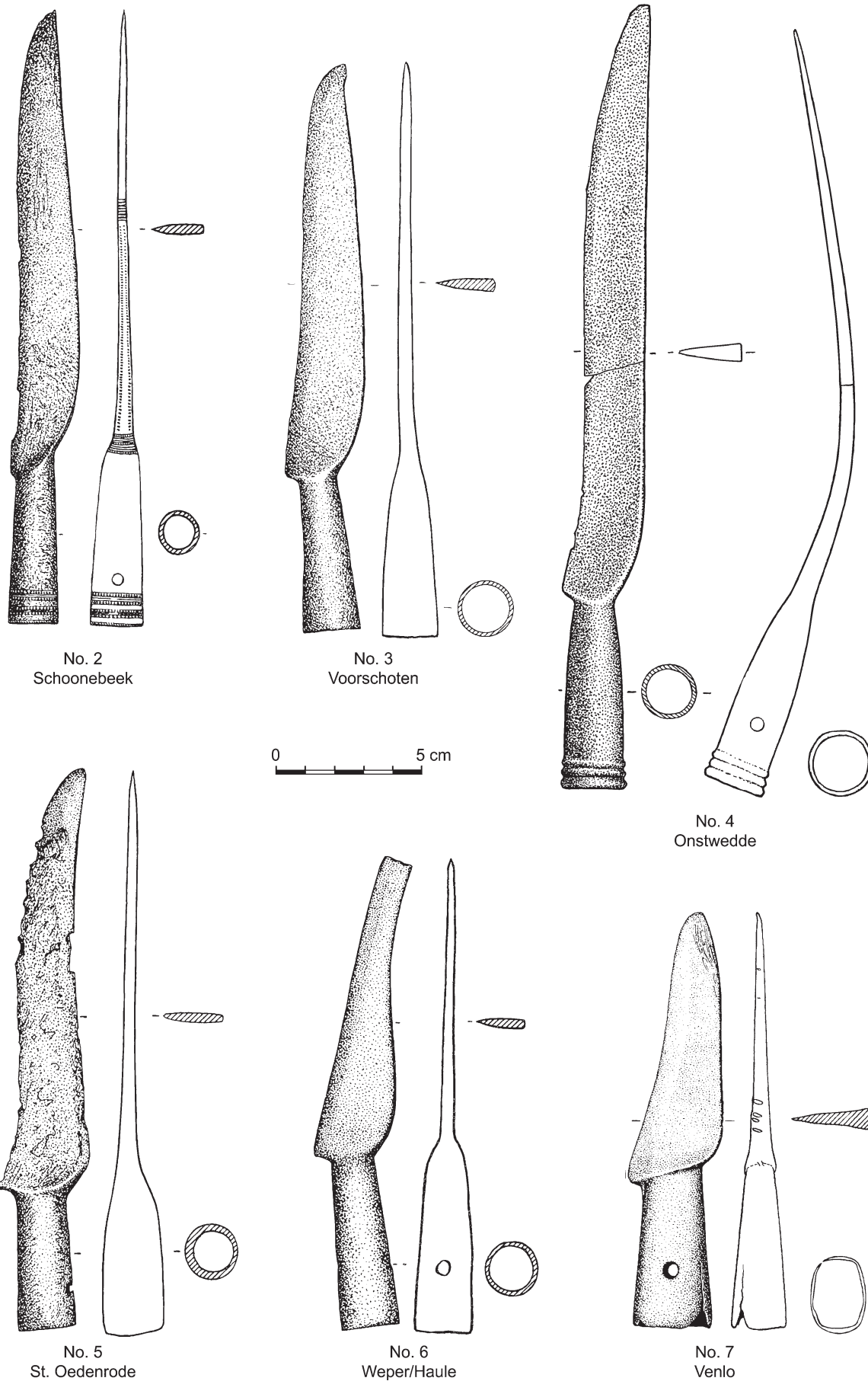


Fig. 6. Dutch Urnfield-period single-edged socketed knives, stray and dredging finds. The numbers correspond to the map of figure 1 and table 3, where details regarding their original publications can be found.

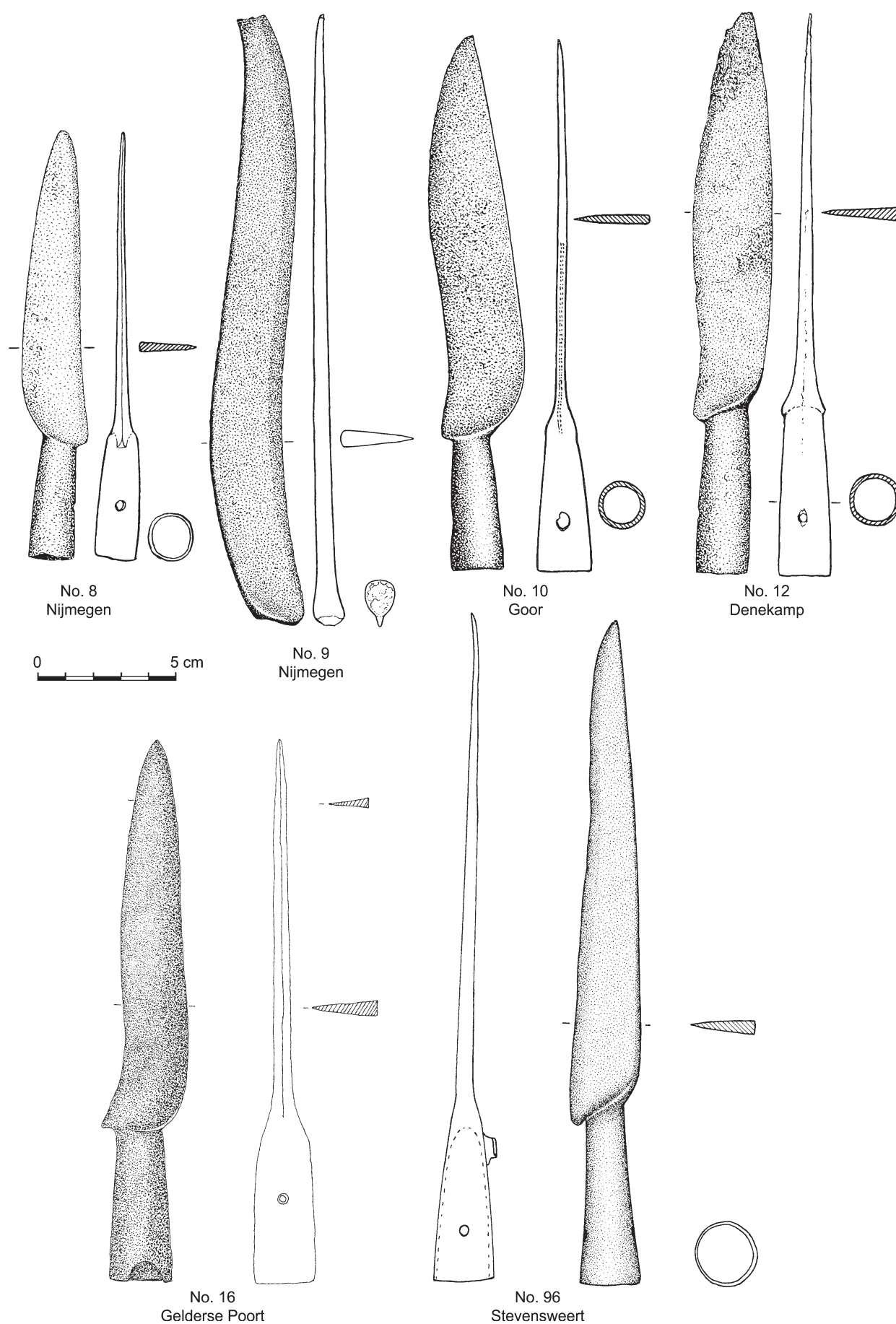


Fig. 6 (continued). Dutch Urnfield-period single-edged socketed knives, stray and dredging finds. The numbers correspond to the map of figure 1 and table 3, where details regarding their original publications can be found.

No. 9. *GEMEENTE NIJMEGEN, GELDERLAND(?) Dealer's provenance (fig. 6)*

L. + 22.3 cm. Large, undecorated blade (unclear whether originally with a socket); tip broken off and missing. Break patinated in antiquity. Patina: mottled grey-green-brown, with patches of iron pan. Museum: RMO, Leiden, Inv.no. NS 272. Original find context unknown; acquired through the antiques trade. (DB 1623).

No. 10. *GOOR, GEMEENTE AALTEN, GELDERLAND (fig. 6)*

L. 19.5 cm. Socketed single-edged Urnfield knife. Blade of triangular section, sharply curved at its base; back ornamented with double row of *pointillé*; conical socket with two peg-holes; diam. of socket mouth: 1.9x1.98 cm. Patina: glossy brown. Found by A.J. Reusink of Bekendijk, on the bank of a ditch. Museum: RMO, Leiden, Inv.no. e.1925/11.1, purchased from Mr. Lammers of Aalten. (DB 1651).

Map reference: Sheet 41B, c. 234/442.

Reference: Butler, 1986: fig. 27:2.

No. 12. *DENEKAMP, GEMEENTE LOSSER, OVERIJSEL. STROOMKANAAL NEAR THE PUNTBEEK (fig. 6)*

L. 20.5 cm; blade width 2.9 cm; socket 5.6/6.2 x 1.9(1.7) cm. Peg-hole diam. c. 3.5 mm. Socketed knife; blade of 'hump-backed' form, triangular in section; conical socket, with peg-holes top and bottom. Cutting edge S-curved; sharp. Tip damaged. Undecorated. Surface rough. Patina: brownish (has been 'cleaned' and varnished). Greyish-green inside socket. Wooden handle fragment preserved inside socket. Found alongside a canal, in cast-up soil. Purchased July 1963 by G.J. Eshuis of Almelo from dragline machinist Mr Bies. Museum: Enschede, Inv.no. 1978-31, ex collection Eshuis. (DB 2085).

Documentation: *Dagblad van het Oosten*, 7 August 1963.

Map reference: Sheet 29A, 267/4/487.7

No. 16. *MONTFERLAND, GEMEENTE BERGH(?), GELDERLAND (fig. 6)*

L. 20 cm. Diam. of socket mouth 2.2x2.3 cm. Undecorated single-edged socketed Urnfield knife. Patina: green. Found during quarrying of a gravel and sand pit in the Gelderse Poort ice-pushed ridge. Private possession.

Reference: Wouters, 1989: 65, with drawing.

No. 96. *STEVENSWEERT, GEMEENTE STEVENSWEERT, LIMBURG (fig. 6)*

L. 24.4 cm. Single-edged socketed Urnfield knife, undecorated. Found in the dredge. Used by the owner as a paper knife for a long time. One side of the socket bears a small, recently soldered-on iron clasp (small, triangular indentations visible over a length of 3 cm on the upper part of the blade, presumably from fixation when welding on iron clasp). Peg-holes in socket: diam. 0.35x0.3 cm. Patina: bronze colour. (DB 2717).

Documentation: pers. comm. Dr L. Verhart, March 2010.

Map reference: 186.000/448.800.

5. DECORATION

5.1. Common decorative traditions

In the Dutch-German area, the western part of Region 1 (*cf.* fig. 3), the decoration of single-edged socketed

Urnfield knives is nearly always situated at the base of the socket (fig. 7) and may comprise incised lines and/or ribs around the socket mouth, semicircles and a wave or 'meandering semi-circle' pattern (German: *Rebmuster*; fig. 7, no. 25). Combinations of these decorative motifs also occur, as is shown by the V-form junction Havelte knife (NL; fig. 7, no. 11) and the northern German T-form junction knives of Aurich (Kr. Aurich, Niedersachsen) (fig. 7, no. 25); and Sterley (Kr. Herzogtum Lauenburg, Schleswig-Holstein) (fig. 7, no. 26).

The backs of the blades can be decorated as well: in Germany one T-form junction knife (fig. 7, no. 42; Reken, Kr. Borken, Nordrhein-Westfalen) shows a striped pattern across its back. Of the Dutch knives, six have decorated backs (fig. 7, nos. 1a, 2, 10, 11, 15 and 108).

In the French/Swiss Alpine area, decoration (on both the blade back and the socket) is documented for knives from Lac du Bourget (fig. 8, no. 67a), and knives dredged up near Chalon-sur-Saône (fig. 8, no. 78) and Pas-de-Grigny (table 3, no. 60), and on a knife from the hoard at Réallon (Hautes Alpes) (table 3, no. 69). The handle of the knife from La Balme (Savoie) (table 3, no. 105; Bocquet, 1976: 490, fig. 6.4), displays four ribs distributed along the base of the socket. Two other French socketed knives (table 3, no. 60: Pas-de-Grigny and table 3, no. 72: Vénat) have a fully ribbed handle, as does the socketed knife of Gross Pankov (table 3, no. 97; Sprockhoff, 1956: *Taf.* 13:2). The knife from Mörigen, Bielersee (table 3, no. 86; Bernatzky-Goetze, 1987: 82, *Taf.* 126:1) also shows a ribbed socket, but this is executed distinctly more finely than on the previous examples.

Such ribbed sockets are not unique to the tool category of knives. We know, for example, of a comparable socket on a Late Bronze Age socketed axe from the hoard of Weinheim-Nächstenbach (Baden-Württemberg; Stemmermann, 1933: *Taf.* II, no. 15). Another circular-ribbed socket is known from a bronze unlooped socketed axe from Wanford, near Lakenheath, UK (Briscoe, 1954: 77). From the Netherlands, a Seddin-type socketed axe from the 1896 Bargerboosterveld hoard also has a ribbed socket (Butler & Steegstra, 2003/04: 222, fig. 62, no. 630).

In short, while the patterns and details of the motifs employed may vary for each decorated knife, it is clear that ribs or ridges and grooves around the socket, and decoration on the back of the knife blade, are common decorative traditions. Ribbed sockets and decoration in the form of incised lines occur in all three regions (fig. 3; table 3). In order to distinguish local from imported knives by their decoration, it is important to see what types of decoration may be particularly favoured in which regions.

5.2. Other decorative schemes

The back of one of the Schoonebeek knives (fig. 7, no. 1a) and that of the knife from Maastricht (fig. 5, no. 108) are

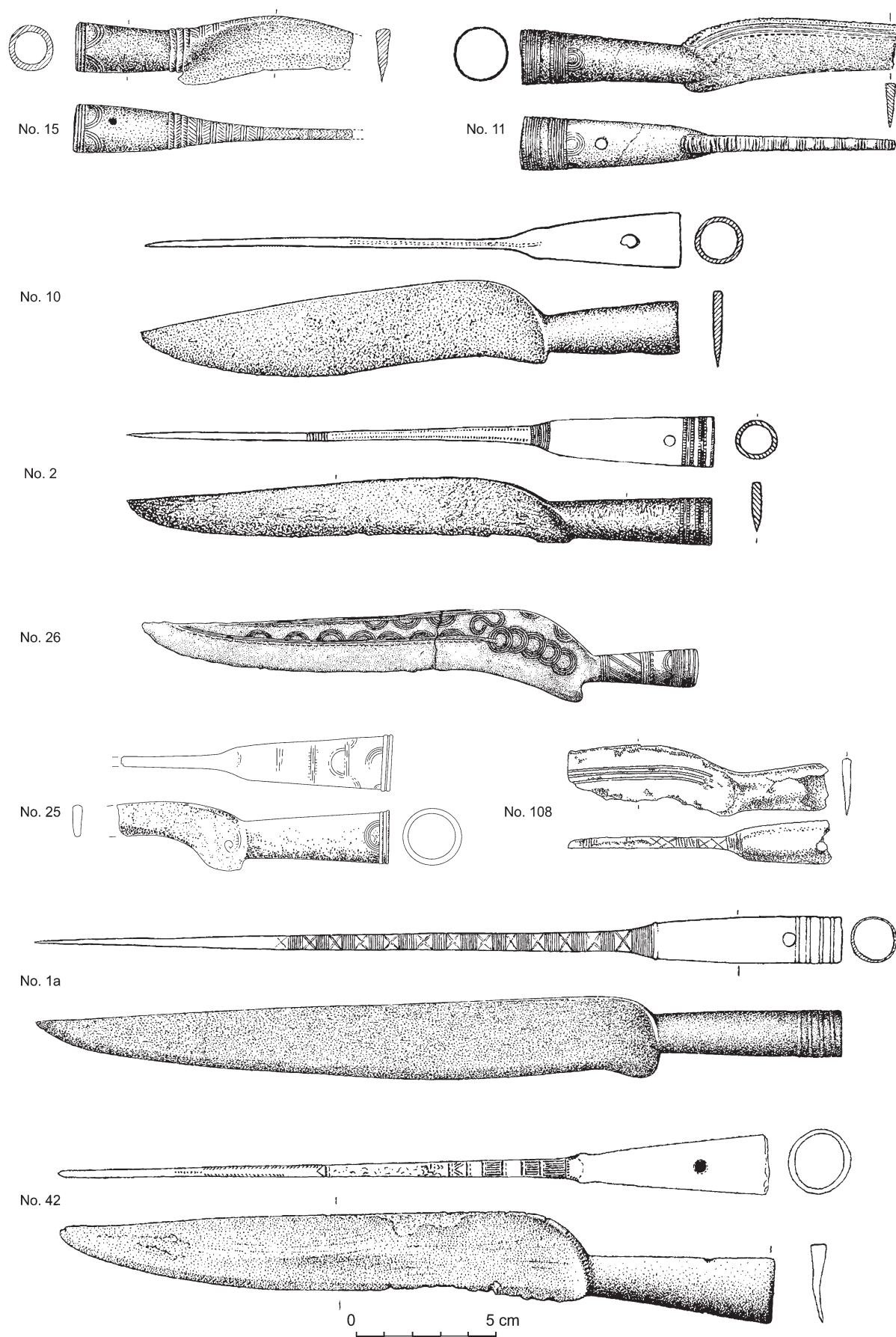


Fig. 7. Decorated Dutch and German Urnfield-period single-edged socketed knives. The numbers correspond to the map of figure 1 and table 3, where details regarding their original publications can be found.

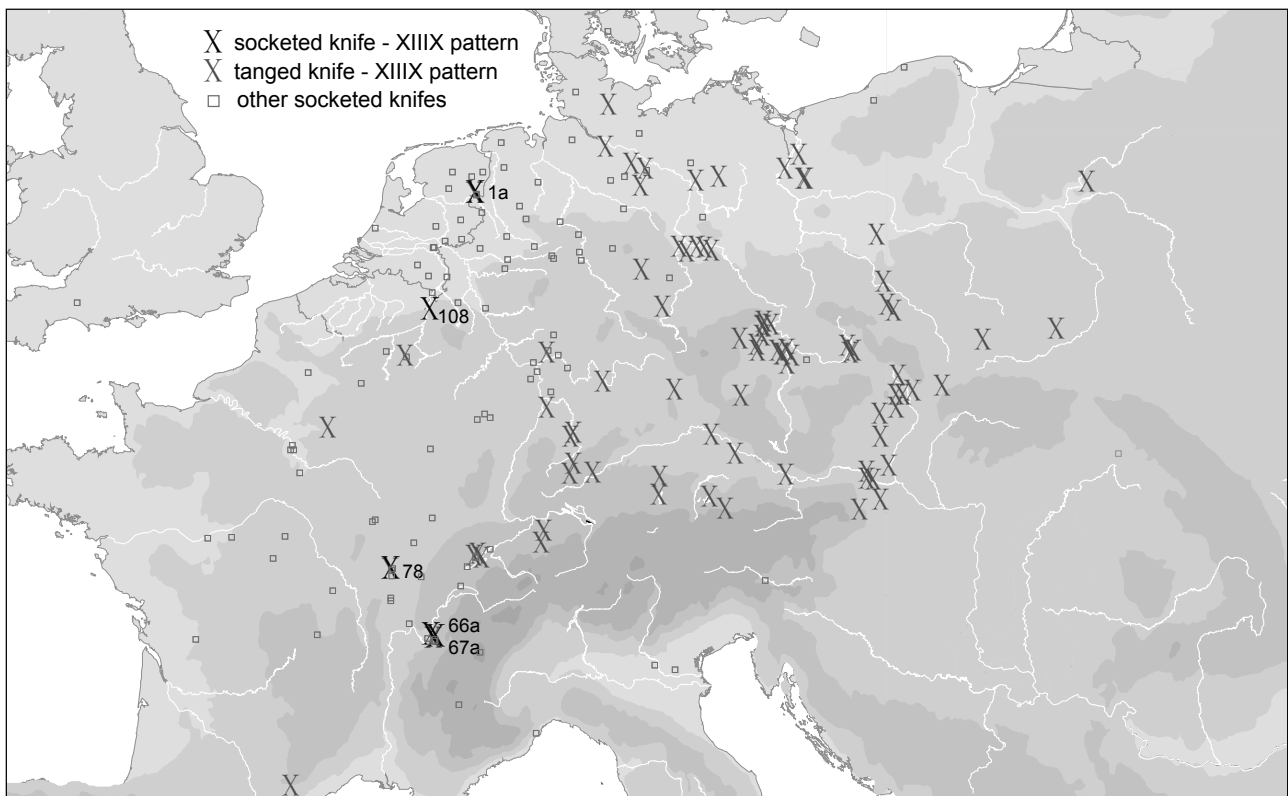
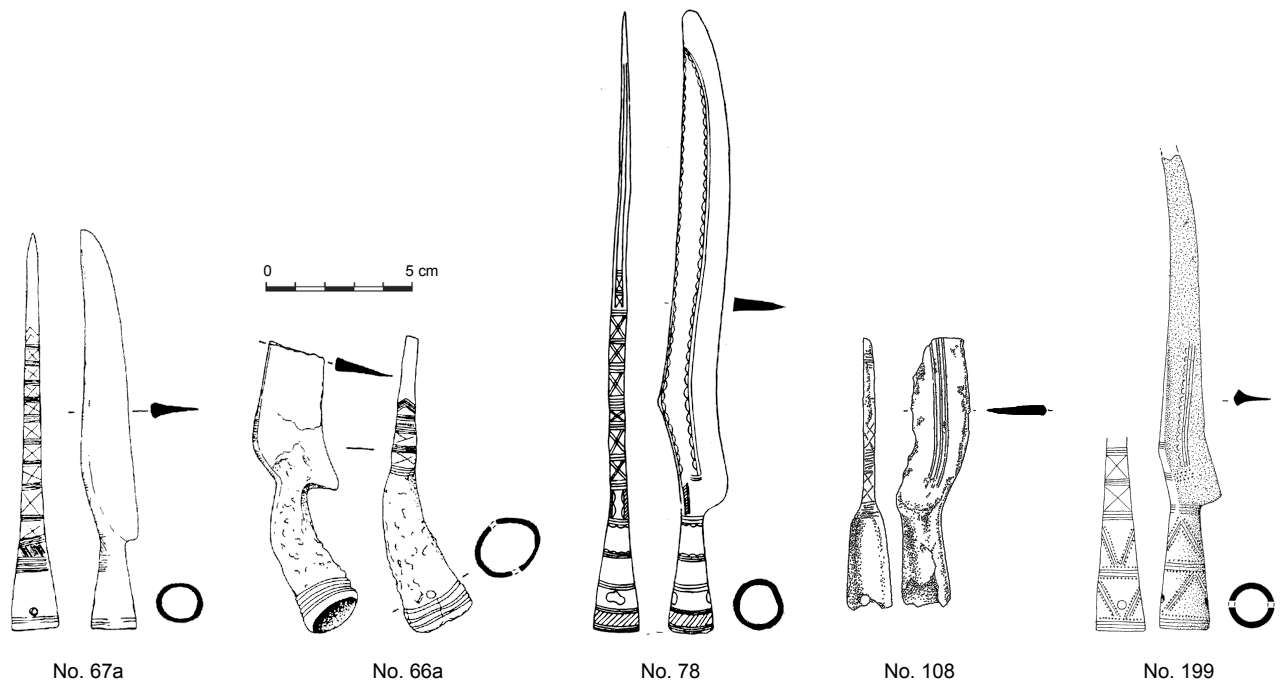


Fig. 8. Examples (top: which serve as parallels to the similarly decorated Schoonebeek knife; fig. 7, no. 1a) and distribution map (bottom) of Urnfield-period tanged knives decorated with the 'XIIIIX' pattern on the back of the blade (From: Von Brunn, 1953; 1968; Müller-Karpe, 1959; Hundt, 1964; Schauer, 1971; Jockenhövel, 1971; Rihovsky, 1972; Thrane, 1972; Ruoff, 1974; Bianco Peroni, 1976; Roudil & Guilaine, 1976; Rychner, 1979; Prüssing, 1982; Blanchet, 1984; Gedl, 1984; Mariën, 1984; Rychner-Faraggi, 1993; Kerouanton, 1998; Jiráň, 2002; Hohlbein, 2008). (The numbers 66a-67a and 78 correspond to the map of figure 1 and table 3, where details regarding their original publications can be found; no. 199 refers to Bianco Peroni's 1976 publication). Map: S. Arnoldussen.

decorated with a typical ‘cross-and-hatch’ pattern, here labelled the ‘XIIIX’ motif.¹⁵ This motif is also known as motif 7 from Thrane’s (1972: 203 and fig. 17) study of the Danish Late Bronze Age knives, but it appears most commonly on the backs of tanged Urnfield knives from Central Europe, Germany and the French/Swiss and Swiss Alpine regions (fig. 8, map)¹⁶, the tanged knives from Hauterive-Champréveyres (Rychner, 1988: 131, 135) or the tanged knife of Grésine (Kerouanton, 2002: 542, fig. 24, no. 4)). On single-edged socketed knives from these areas it is decidedly rare. A quest for parallels to the Schoonebeek and Maastricht knives’ decorated backs takes us to the French/Swiss Alps, where the two small socketed knives from Lac du Bourget (fig. 8, nos. 66a & 76a; Kerouanton, 1998: 94, 96, fig. 5.8, fig. 6.9) bear similar motifs on their backs. The knife dredged up near Chalon-sur-Saône (fig. 8, no. 78), 140 km northeast of Lac du Bourget, displays a comparable decorative trait. A final parallel may be the lower half of the back of the Italian socketed knife published by Bianco Peroni (1976: *Taf.* 27, no. 199), but for which unfortunately no exact provenance is known (fig. 8, no. 199).

A few other decorative traditions may have a more restricted geographical scope, such as for example the wave pattern, whose occurrence – on socketed Urnfield knives – is restricted to Region 1 (table 3, no. 25). Remarkably, this wave or *Rebmuster* pattern is well-known on spearheads from the areas directly east of the main distribution of the single-edged socketed Urnfield knives – the same area where the ‘XIIIX motif’ on the backs of tanged knives is common (e.g. Müller-Karpe, 1959; Jacob-Friesen, 1967; Blanchet, 1984). It is, however, not restricted to the latter region, as spearheads decorated in this fashion are also native to the southern Scandinavian as well as the *palafitte* regions (e.g. Montelius, 1917; Kimmig, 1992). It nonetheless appears that some types of decoration (e.g. the ribbed sockets and incised lines on socketed Urnfield knives) are part of a distribution pattern with a more westerly centre of gravity, while others (such as the wave pattern, mainly on spearheads, and the XIIIX pattern on tanged knives) focus on an adjacent, more north-central European area, centring on northern Switzerland, Austria, the Czech Republic, southwestern Poland and south-central and eastern Germany (cf. fig. 8, map).

6. THE DATING OF SINGLE-EDGED SOCKETED URNFIELD KNIVES

In general terms, a dating of the single-edged socketed Urnfield knives to period Ha B2/3 (Müller-Karpe, 1959: 216, c. 925–800 cal. BC; Fontijn, 2003: 152; Lanting & Van der Plicht, 2003: 133) or Bronze Final IIIb (Rychner, 1979: 80) or Montelius V (Sprockhoff, 1956: 104, c. 925–750 cal BC; Lanting & Van der Plicht, 2003: 134/135) is met with consensus (Jockenhövel, 1980: 236; Prüssing,

1982: 145/146; *Taf.* 35; Butler, 1986: 148; Warmenbol, 1988a: 3; Hohlbein, 2008: 336). Evidence for an earlier start is generally indirect, such as blades considered ‘typologically early’ (Prüssing, 1982: 146), indirectly associated HaA2 dendrochronological dates for *palafitte* sites (e.g. Fischer, 2010: 42), associations with object types dated typologically earlier (e.g. Thrane, 1972: 209/210), associations with objects that have a broader overall date range (e.g. Helmeroth-type axes; Kibbert, 1984: 139–141). Alternatively, relatively early dates have been claimed for sites situated well beyond the main distribution area.¹⁷

Some consideration needs to be given to the knife of Dortmund-Asseln (table 3, no. 31), which – together with two accessory vessels – was found in the cremation grave of an adult male, marked by a keyhole-shaped ditch (Hohlbein, 2008: 368; *Taf.* 45; Brink-Kloke, 2008: 138). Current dating evidence suggests that such graves may have been constructed between the 12th and the 8th century BC¹⁸, allowing – though not requiring – an earlier first appearance of single-edged socketed Urnfield knives. Moreover, only very few socketed knives have been assigned to HaB1, and then solely on typological grounds. The ‘typologically early’ example from Réallon, Hautes-Alpes (table 3, no. 59; Courtois, 1960: 68, fig. 21, no. 2), for example, was found in a HaB3/Bf.IIIb hoard (Audouze & Courtois, 1970: Pl. 27:51; Hohlbein, 2008: 338, 344). If this particular knife is indeed older, it may simply have been incorporated in a somewhat younger deposit – a pattern that is not uncommon to some hoards.¹⁹ Confirmation of the generally assumed date-range can be obtained by analyzing find associations in hoards (cf. fig. 9).

The Dutch examples from Schoonebeek, Havelte and Elsenerveen were in hoards associated with socketed axe types dated broadly by association to Montelius V (fig. 9; Butler & Steegstra, 2005: 207, 222, 255/256). The fragment from the Drouwenerveld hoard can be dated to period V as well, on the basis of the axe type and parallels for the ribbed collar, *tutuli* buttons and lugged sickles in hoards elsewhere (Butler, 1986: 139–142, 145). The fragment from the Apeldoorn-Bruggelen hoard is dated to HaB3 (Hulst, 2010: 67).

The examples in the German hoards of Kattenbühl, Ostrhauderfehn and Holzhausen are all dated by association to Montelius V.²⁰ Hohlbein (2008: 335) places the examples from the hoards of Hochstadt and Nächstebach in *Depotstufe Wallstadt* (cf. Richter, 1970; Late Urnfield period, or HaB3).²¹ The German funerary associations, such as the knife of Wittenhusen with a type-II S-shaped handled razor (Hohlbein, 2008: 335; Jockenhövel, 1980: 157, 160, *Taf.* 82D) or the knife of Rheda-Wiedenbrück, found with items including ribbed bronze tubes, interlinked rings and a cast bronze hanging vessel (Hahne, 1915: 7/8, *Taf.* 1; Hohlbein, 2008: 334), all support the presumed dating to Montelius period V. The Danish examples from graves (e.g. Flenstofte and Hedviglyst:

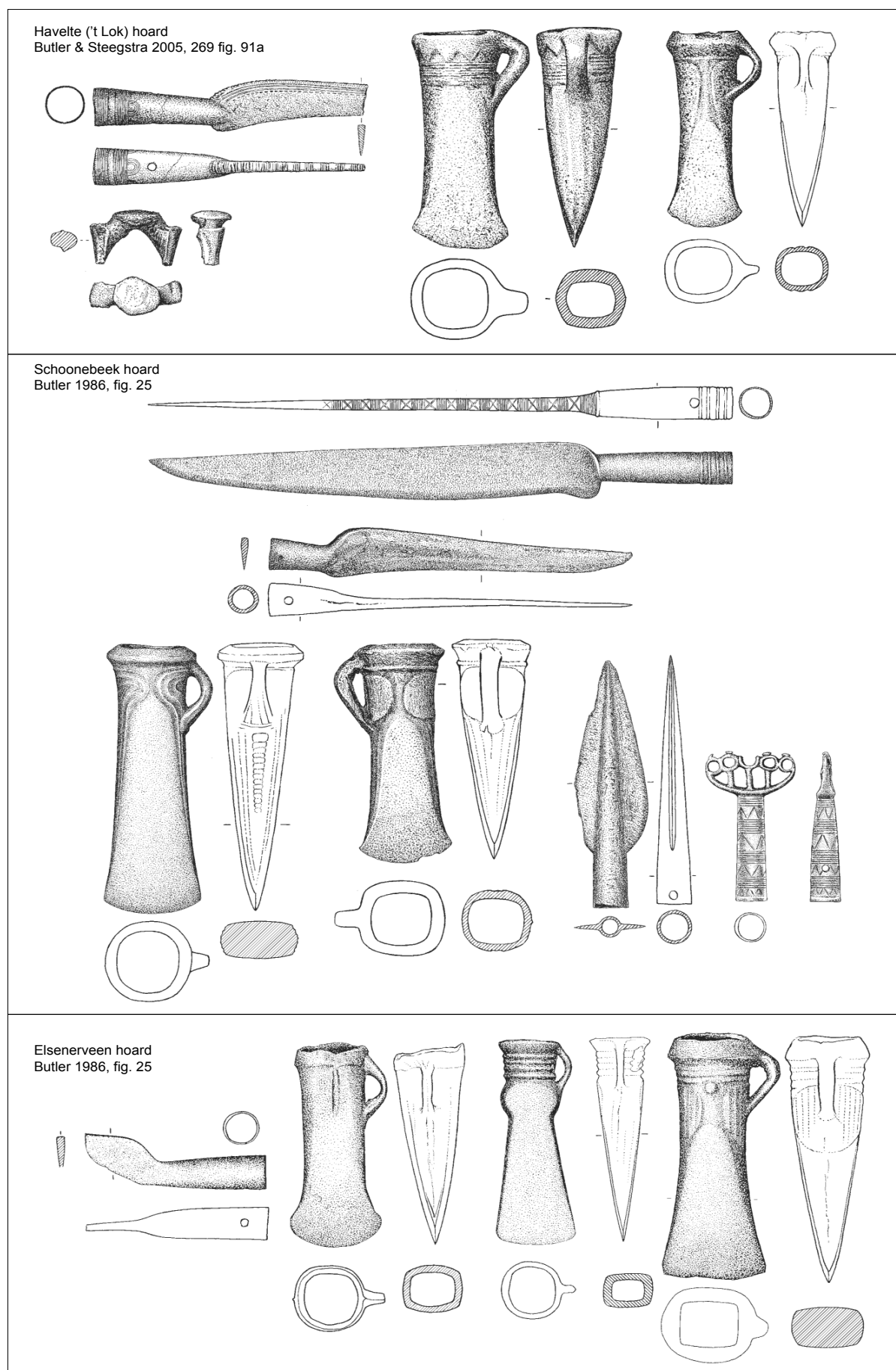


Fig. 9. Find associations of Dutch socketed single-edged urnfield knives in hoard contexts (not to same scale).

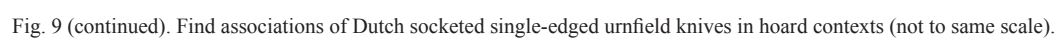


table 3, nos. 53–54) too are dated to Montelius period V (Thrane, 1972: 183–8).

The single-edged socketed Urnfield knives in French hoards do not call for a revision or refinement of the above generic date-range for such knives. The hoards of Réallon, Pas-de-Grigny, Venarey, Les Laumes, Farébersville, Plainseau, Lay-Saint-Rémy, Azay-le-Rideau, Vénat, Boissy-aux-Cailles and Ray-sur-Saône have all been dated to (French chronology) *Bronze final III*²² or to HaB2/3.²³ Jockenhövel & Smolla's (1975: 297) dating of the Juvincourt hoard (table 3, no. 104) to '*la dernière période du Bronze final*' would nowadays also be regarded as a Bf IIIb dating (e.g. Gaucher, 1982: 184). A slightly older (Bf IIb–IIIa) dating has been suggested for the knives from Lac du Bourget (table 3, no. 66a), but again it is difficult to relate such a generic dating for individual sites around Lac du Bourget that start in Bf IIIa to specific objects such as the socketed knives (Kerouanton, 2002: 549).

For the Belgian single-edged socketed knives of Han-sur-Lesse, recently two radiocarbon-dates on wood fragments from the sockets have become available (Warmenbol & Van Strydonck, 2012). The dates obtained (KIA-21782: 2805 ± 30 BP (knife 4706, V-form junction) and KIA-21521: 2715 ± 25 BP (knife 4704, V-form junction); *op. cit.*, 45) demonstrate that such knives may date between 1000 and 800 cal BC, albeit that a dating in the 9th century BC (or Ha B2/3) is considered more typical by Warmenbol and Van Strydonck (2012: 47).

To conclude, given the dates established for hoards in the Netherlands, Germany and France that contained single-edged socketed Urnfield knives, and the absolute date available for two Belgian knives, the proposed general date range of period Ha B2/3 or Bf III(b) seems essentially correct. In what follows, the various contexts in which such knives are found (hoards, graves, settlements) are discussed to highlight some regional characteristics, after which connections between regions are tentatively discussed.

7. ANALYSIS OF CONTEXTS AND CONTACTS

7.1. Finds by context

Single-edged socketed Urnfield knives are found in hoards, in graves, dredged up²⁴, as stray finds, or in caves (table 1). Mostly, these are single finds, but in hoards multiple socketed knives are occasionally found. Excluding the stray (n=11) and dredged (n=1) finds, the Dutch examples predominantly (n=6) originate from hoards. Only a single socketed knife (Maastricht – Amby; table 3, no. 108) originated from a funerary context. Considering the comparatively well-known data set relating to Late Bronze Age burials²⁵, the scarcity of such knives in graves suggests that this reflects intent rather than coincidence.²⁶ The predominance of cave finds in Belgium²⁷ is partly a

consequence of the geological prerequisites (and research intensity), but also of a comparable funerary tradition in which knives play no part as grave goods (De Laet, Nenquin & Spitaels, 1958: 119, 165; G. de Mulder, pers. comm. November 2011). In Germany, however, single-edged socketed Urnfield knives feature equally prominently in hoards as they do in graves. There, tanged knives also appear in urnfield graves²⁸, as they do in the Paris Basin (Brun, 1986: 93–128). Such knives interred with the deceased may have been the carving knives for funerary food offerings, as is suggested by the unburnt cuts of mutton, pork and beef found accompanied by a decorated tanged knife in the burial pit of an urned Late Bronze Age cremation at Willebadessen-Engar (Bérenger & Pollman, 2008: 68). In Denmark and Austria, all known examples of single-edged socketed Urnfield knives originate from graves. The specimens dredged up from rivers, particularly the high numbers from France, suggest that in those regions the deposition of such knives in rivers was customary. In the Netherlands and Germany, the presence of single-edged socketed knives in settlements is only indirectly evidenced by recovered clay moulds, but the large numbers of Swiss and French finds from Late Bronze Age lakeshore settlements (*palafittes*) show that such knives may have been very common within such settlements.

7.2. Distribution: connections and origins

Figure 1 and tables 1 and 3 indicate that there is a marked concentration of finds of single-edged socketed Urnfield knives in the lakeshore settlements of western Switzerland and eastern France, especially along the *Lac de Neuchâtel* and *Lac du Bourget*. In France, the lakeshore settlement of *Lac du Bourget* alone has yielded 32 single-edged socketed Urnfield knives (Kerouanton, 1998: 89, table 3), whereas the 24 knives and two moulds known from Switzerland nearly all originate from the area north(west) of *Lac de Neuchâtel* and *Lac Lemán* (Thrane, 1972: 226 lists three further sites (with 11 specimens), and additional knives may be represented in Ruoff's (1974) list to Karte III, but as in both cases images are lacking, these knives have been omitted here). As in some of these *palafitte* settlements also casting moulds for socketed knives – made of clay or stone – have been found, Sprockhoff (1950/51; 1956) discusses the socketed knives under the heading of *Pfahlbaumesser*. The region of western Switzerland and eastern France is considered by most authors as the primary home of this type.

North of this primary region, the lowland areas of the Dutch/German/Danish landscape show a concentration of single-edged socketed Urnfield knives, albeit that here the numbers of specimens per findspot are much lower, which perhaps indicates a non-local origin. The 42 German single-edged socketed Urnfield knives occur mostly in northwestern Germany, especially in the Elbe estuary region and on the Lüneburger Heide, and in cen-

tral Germany (Sprockhoff, 1950; Hundt, 1978). Smaller clusters may be identified around the Main/Rhine confluence and in the Loire and Seine river valleys. None of the more isolated findspots yielded large numbers of single-edged socketed Urnfield knives, but the ten knives from the cave at Han-sur-Lesse (Mariën, 1984: figs. on 389/390) are a notable exception.

Of the North Italian socketed knives published by Vera Bianco Peroni (1976: 5, *Taf.* 23-27), only the Nazari type (her nos. 189-194, 196, 198 and 199) is morphologically related to the examples northwest of the Alps. Bianco Peroni's (1976: *Taf.* 23-25) types S. Francesco, Morlungo and Stefano are so evidently different that one can unhesitatingly classify these as local variants (Butler, 1986: 146; Hohlbein, 2008: 326).

Based on the overall distribution pattern (fig. 1), three main areas of occurrence may be outlined (see fig. 3 for the regions): 1. a concentration focused on northern Germany and adjacent parts of the Low Countries; 2. a concentration centred on the Main-Rhine confluence in southern Hessen; and 3. a concentration in eastern Switzerland and the French Rhône-Alpes and Franche-Comté districts (and eastern Burgundy). Within Region 3, a further subdivision is possible according to context, with the *palafitte* sites in the southeastern part and hoards and dredging finds in the northwestern part. Region 1 can also be further subdivided if the context of the finds is taken into consideration. The Dutch sites and the German sites north of the Mittelland canal are predominantly hoards or stray finds. In Germany south of this canal, a concentration of funerary context is discernible in central and eastern Nordrhein-Westfalen.²⁹ Single-edged socketed Urnfield knives also appear in graves in the area northwest of the Elbe river, but are as yet absent from German graves between the Mittelland canal and the Elbe. The second (Main-Rhine, southern Hessen) concentration does not allow a subdivision, as here hoards, dredge-finds and a single funerary context all appear in close proximity.

Determining a region of origin for single-edged socketed Urnfield knives is a complicated matter. Apart from the clearly distinguishable local variations mentioned above, the category as a whole suffers from a high degree of apparent similarity, but also a frustrating lack of homogeneity in detail and specificity of decorative traditions (Tackenberg, 1971: 119-126; Butler, 1986: 147). Moreover, there are no adequate criteria for distinguishing local from imported specimens (Butler, 1986: 146).

Their ample occurrence in the western Swiss/eastern French lake area, combined with the more common appearance of moulds there, has prompted speculation as to this being the area of origin for knives of this type (Sprockhoff, 1950/51; 1956; Hohlbein, 2008: 340), from where the type radiated out (Butler, 1986: 146). However, given the more widespread occurrence of moulds, there is general agreement that local manufacture beyond the *palafitte* region is probable. For the northern region

(Region 1), the moulds from Someren³⁰ and Ameln (D: Hohlbein, 2008: 346, no. 390) demonstrate this clearly (*cf.* Prüssing, 1982: 147). As yet, any evidence of production in the Main-Rhine region is lacking. It may well be that, even if initially inspired by examples from the *palafitte* region, production in Region 1 gained considerable independent momentum.

Apart from the plausibility of local production, it is evident that some knives travelled considerable distances prior to being deposited. The V-form junction knife of Havelte (fig. 5, no. 11) and the Schoonebeek and Maastricht knives (fig. 5, nos. 1a; 108, with their typical style of decoration) are the most obvious Dutch examples. However, the details of such processes of exchange (*e.g.* routes, distribution lags, return commodities?) elude us. In a few cases, a wide geographical catchment area is reflected in a hoard's composition, for example in the Drouwenerveld hoard (table 3, no. 15; Butler, 1986: fig. 4, no. 30), which comprised items such as the *tutulus* buttons and ribbed collar which may well have originated from the middle Elbe region, c. 280 km east from where they were found (Butler, 1986: 140, figs. 9-10). That same hoard also contained items such as a lugged sickle and tanged knife, which have strong southern Scandinavian affinities (Butler, 1986: 143-5). The large French hoard (628 items) of Petit-Vilatte à Neuville-sur-Barangeon, Cher (fig. 1, no. 64), according to Milcent (1998: 55 and 62ff), comprises a batch of objects of Nordic origin, a batch from the North-Alpine area (central-eastern France and Sarre-Lorraine) and yet another batch from the Atlantic zone (western and northwestern France). Indeed, Milcent (1998: 69) suggests that, given the incorporation of three individual 'sets' (governed by organisational rules that reflect different cultural backgrounds) within the hoard, it was local elites who may have initiated and controlled such exchanges.

8. OTHER URNFIELD-PERIOD KNIVES IN THE NETHERLANDS

It will be obvious that socketed knives were not the sole or chief cutting implements during the Urnfield period. Next to the technologically somewhat more intricate socketed knives, presumably a multitude of (rod-)tanged knives (*Griffdorn/Griffangelmesser*) and tanged-grip knives (*Griffzungenmesser*) were used.³¹ As such knives from the Netherlands are typologically more uniform – within their classes – and, in part because of scarcity of decoration, offer fewer possibilities for tracing groups or contacts above the regional scale, these knives are not discussed here to the same level of detail as the socketed knives. Although a series of these knives are discussed below, this is solely for the purpose of illustration and comparison, and by no means intended as a complete catalogue of knives of these types in the Netherlands. They do, nonetheless, corroborate the regional divisions

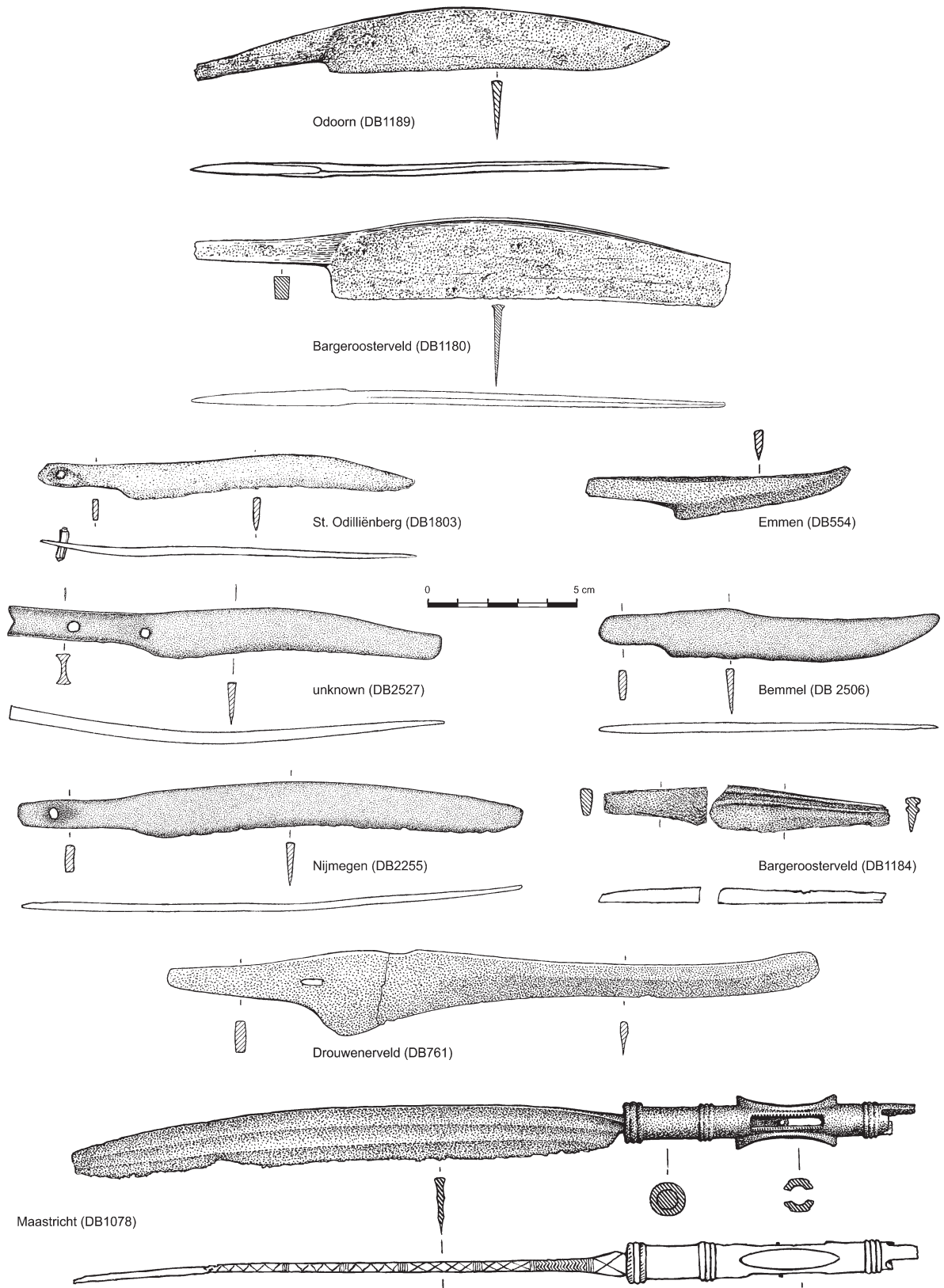


Fig. 10. Examples of full-hilted and tanged Urnfield-period knives from the Netherlands. Drawings: Groningen Institute of Archaeology, Groningen.

and the reconstructed contacts postulated on the strength of the data set of single-edged socketed Urnfield knives.

8.1. Tanged knives from the Netherlands

Fitting a tanged blade into an organic haft is a technologically simple solution for achieving a haft-blade fixture. According to the shape of the tang, such knives are classified as *Griffdornmesser* (round tang), *Griffangelmesser* (tang of square or rectangular cross-section, which widen towards the blade) or *Griffplattenmesser* (flat and broad tang, with or without rivet holes, not widening towards the blade). The knives of Emmen and Bemmel (fig. 10, DB554; DB2506) show this technique of *Griffangel* construction in its simplest form. Nonetheless, also more elaborate and longer blades could be hafted by this method.³²

The knives of Nijmegen and St. Odiliënberg (fig. 10, DB2255; DB1803) present a technologically somewhat more advanced manner of achieving (and above all, maintaining) a haft-blade fixture: the tangs are perforated to allow for a rivet to secure the blade to an organic handle (*cf.* Thrane, 1972: 213/214, 219; Prüssing, 1982: 104–6). Given the shallow deepening of the rivet-hole (*Nietlochvertiefung*), these knives can be classified as the Riegsee type (Variant Přestavlky-Libočany; Hohlbein, 2008: 216ff; *Taf.* 31), which is native to Nieder- and Oberbayern, but shows a second concentration around the Rhine-Main confluence (Hohlbein, 2008: 254; *Taf.* 67). These knives are dated to the start of the Urnfield period, c. HaA2 / Period IV (Hohlbein, 2008: 243).

The Drouwenerveld knife (fig. 10, DB761) employs the same method, but owing to the specific shape of its back is better classified as a Bunsöh-type *Griffangel* knife (Butler, 1986: 143/144; *cf.* Prüssing, 1982: *Taf.* 12, nos. 234–236). It probably is a Period V import from southern Scandinavia or Schleswig-Holstein (Butler, *loc.cit.*; Milcent, 1998: 56). The Bargerroosterveld knife (fig. 10, DB1184) with its two ribs near the back of the blade, may in fact be a reworked sickle (*cf.* Hohlbein, 2008: 355/356).

(DB 554) EMMEN, *GEMEENTE* EMMEN, DRENTHE (fig. 10).

L. 9 cm, w. 1.5 cm. Small, bronze, tanged knife. Patina: dark green. Original context unknown. RMO, Leiden, Inv.no. 1925/9.3.

Map reference: Sheet 17H, c. 212/501

Reference: Essink & Hielkema, 1997/98: 310, no. 262.

(DB 1803) LEROP, *GEMEENTE* ST. ODILIËNBERG, LIMBURG (fig. 10)

L. 12.8 cm; w. 1.1 cm; th. 0.3 cm. Knife, single-edged; blade slightly curved; broad tang with single rivet of polygonal section. Rivet-hole worked from one side (Riegsee type, Variant Přestavlky-Libočany?). Patina: glossy light green, with blackish patches; light brown loam adhering in places. Well preserved, except for cutting edge and heads of rivets.

Map reference: Sheet 58D, c. 196/353

(DB 1180) BARGERROOSTERVELD, *GEMEENTE* EMMEN, DRENTHE (fig. 10)

L. 18.2 cm; w. 2.8 cm; th. 0.4 cm. Single-edged and tanged Urnfield knife. Back of the blade curved, slightly thickened, with ridge. Tang of chisel form, with rectangular cross-section. Blade sharp, tip missing. Patina: dark green, with lighter flecks. A discoloration corresponds in shape with the outline of the end of the blade of the razor 1899/XI.24. The knife and a razor, purchased from the same person at the same time, with identical patina, and apparently with the tip of the razor outlined in the patina of the knife, may with a fair degree of certainty be regarded as a closed assemblage, although there is no statement in the records that they were actually found together. Museum: Museum Assen, Inv. no. 1899/XI.23, purchased from C.G.J.A. van Genderen Stort, Emmen. *Map reference:* Sheet 18C, c. 261/532

Discussion and parallels: The tanged, single-edged knife of the hoard of 1899 is also one of a widespread and varied Urnfield family. The knife in Grave 2 at Wollmesheim (Müller-Karpe, 1959: *Taf.* 208 B:7), a classic HaA2 grave, is a perfect match, even though its features are more often to be found in HaB contexts. Its nearest Dutch parallel is the knife found in the peat at Odoornerveen (DB1189), just 10 km further north, in 1905 (Museum Assen, 1905/VI.3). Thus both the knife and the razor have parallels found in the vicinity independently and at quite different times. All the evidence considered, they are likely to have been deposited around the transition between HaA and HaB, and therefore (in the scheme of absolute dates proposed by Müller-Karpe, 1959) close to 1000 BC.

(DB 761) DROUWENERVELD, *GEMEENTE* BORGER, DRENTHE (fig. 10).

L. c. 22 cm; maximum width 2.8 cm; thickness 0.4 cm. The more-or-less triangular tang has a rectangular cross-section, and a slit-like perforation (0.7 x 0.2 cm) by which handle-plates could have been fastened to the tang. The slightly concave back of the blade is rounded in section. The concave cutting edge suggests frequent sharpening. The knife was presumably bent to make it go into the pot; the break, however, is recent plough damage.

Discussion and parallels: The Drouwenerveld knife most closely resembles the larger examples of his Bunsöh type. The few examples of this type occur in Ditmarschen and on the Lüneburger Heide (Prüssing, 1982: nos. 232–236). Characteristic of this small group of knives is the jag in the line of the back caused by the irregular junction of the blade and the tang. A parallel for the Drouwenerveld elongated perforation can be found in the Armstrong assemblage (Prüssing, 1982: *Taf.* 27H, nos. 236 and 238). A similarly shaped knife originates from the (Period V) Hemmelsdorf hoard (Prüssing, 1982: no. 245; Struve, 1979: *Taf.* 59). *Map reference:* Sheet 12G, c. 245/551

Reference: Butler, 1986: fig. 4: 15; 143–144; Essink & Hielkema, 1997/98: 310, no. 259.

(DB 1184) BARGERROOSTERVELD, *GEMEENTE* EMMEN, DRENTHE (fig. 10).

L. 9.6 cm; w. 1.7 cm. Small Urnfield-period knife, damaged and broken. The back of the blade is marked by two ridges flanking a shallow groove (a pattern not uncommon to bronze sickles). Patina: green. Probably a sickle, reworked into a knife (*cf.* German examples of sickles reworked into knives at Wittelsberg and Düren: Hohlbein, 2008: 355/356), yet

knives with such ridges may also be related to the Brunn and Riedenburg types of *Volgriffmesser* (Hohlbein, 2008: *Taf.* 1, *Taf.* 3).

Part of 'the hoard of 1900' (see Butler & Steegstra 2007/08: 397/398, fig. 12); Museum: Museum Assen, Inv.no. 1900/III.32.

Map reference: Sheet 17H, c. 258/533

References: Butler & Steegstra 2007/08, 397/398, fig. 12 and references therein.

(DB 2506) BEMMEL, *GEMEENTE BEMMEL*, GELDERLAND.

L. 11.45 cm; th. 0.3 cm. Tanged Urnfield knife, butt end slightly battered recently. Patina: light green; well preserved but surface slightly rough. Found in 1990 by the current owner while fossil-hunting in a depot of dredged-up sand in de Bemmelsche Gendtsche en Ooijrijkse Polder. Private possession.

Map reference: Sheet 40D, c. 432.7/190.5

(DB 1189) ODOORNERVELD, *GEMEENTE ODOORN*, DRENTHE.

L. 16.1 cm. Well-preserved, undecorated single-edged tanged Urnfield knife. Blade of triangular cross-section with curved back; slightly thicker tang of rectangular cross-section, chisel-like end. Cutting edge razor-sharp. Found 1905 in the Odoornerveld in a small bog at a depth of 0.5 m. Patina: none. Museum: Museum Assen, Inv.no. 1905/VI.3.

Map reference: Sheet 17E, c. 248/542

References: Essink & Hielkema, 1997/98: 310, no. 265.

(DB 2255) NIJMEGEN, *GEMEENTE NIJMEGEN*, GELDERLAND.

L. 16.8 cm; max.w. 1.6 cm; th. 0.3 cm. Urnfield knife with perforated tang (Riegsee type, Variant Přestavky-Libočany?). Gently arched back, without backing rib. Tang rectangular in cross-section, width 0.95 cm; rounded end sharp. Patina: slightly glossy dark green, almost blackish. Cutting edge battered. Faces with many scratches. Blade slightly bent. Rivet-hole diam. 4 mm. Found in 1996: recovered during the construction of playing fields along the Nijmegen-Venlo railway line in the district of Brakkestein. Museum: Museum Het Valkhof, Nijmegen; Inv.no. Brak.18.

Map reference: Sheet 40D, c. 188/425

Reference: Fontijn, 1996: 36.

(DB 2169) SUSTEREN, *GEMEENTE SUSTEREN*, LIMBURG. IJZERENBOSCH.

Fragment of a bronze knife. No further information available. No drawing.

Map reference: Sheet 68B, 189.15/341.24.

Reference: Archis 15792.

(DB 1446) MAASTRICHT, LIMBURG

Tanged Urnfield knife; single-edged, thin curved blade with tang of rectangular section (broken off and missing). Incised decoration on the blade. Broken in antiquity. Museum: Museum Maastricht; Inv.no. 235 (969A, Maastricht 1931). No further information available. No drawing.

An alternative strategy to achieve good handle-blade fixation is to extrude and widen the tang so as to extend to the full width (and frequently also full length) of the handle. This class of knives is known as *Griffzungenmesser*. The sides of the cast-on tang are flanged and show series of rivet-holes or slots for attaching the handle (plates).³³ Figure 10 shows an example of this construc-

tion (DB2527), unfortunately with no known provenance. It can be classified as a tanged-grip knife with no obvious handle terminal and consequently may be related to similar knives in Germany (Steinheim type, *Stufe Wölfersheim*; Hohlbein, 2008: 272, 275).

(DB 2527) PROVENANCE UNKNOWN

L. 14.5 cm. Weight 26.5 gr. Urnfield knife with perforated tang. Gently arched back, without backing rib. Tang of hourglass-shaped cross-section (0.5x0.18x0.5 cm), 2 rivet-holes, V-shaped notch. Patina: dark green, light green patches, green patinated sandy encrustation. Private possession.

8.2. DOUBLE-T-HANDLED URNFIELD-PERIOD KNIVES IN THE NETHERLANDS

That particular knife types and decorative designs might travel far and wide is illustrated by the distribution of a specific type of Urnfield-period knife: the double-T-handled knife (Sprockhoff, 1941: 84; 1951: 126; Tackenberg, 1971: 123ff, 276; 1978: 11; Butler, 1973: 15–27). These elaborate *Vollgriffmesser* were produced with the lost-wax or *cire perdue* method, and some examples still contain sand in the hollow handles.³⁴ This group of knives are characterised by their trademark transverse bar ('T') handle terminals, rectangular handle cross-section, substantial size (up to 40 cm length), lavish decoration and presence of a mid section that separates the blade from the handle proper (Prüssing's (1982: 87) Barriën-Bülten/Vejby type). Because of these characteristics and their relatively short handles, such knives have been labelled cult tools and status objects.³⁵ Lipid analysis of the Mennighüffen knife showed that it had been used to carve animal flesh, be it part of cultic ceremonies (Koschik, 1993: 125; Hohlbein, 2008: 31) or everyday meals. The 'wavy' cutting edge of the Vroomshoop knife shows that, whatever their use, such knives were occasionally sharpened (fig. 12, DB1353).

Although the Dutch examples mostly originate from deposits in peatbogs (Appelscha, Vroomshoop) or rivers (Hardenberg), the Valthe knife was recovered from a barrow (Lanting, 2001: 367/368, 371). The German examples stem from graves, rivers and wetland deposits as well (Lanting, 2001: 367/368, 371; Hohlbein, 2008: 28, table 2, 36). As with the socketed Urnfield-period knives, the life-histories of these objects apparently were not intended to end in the melting pot, as they continued to be of significance as grave goods or as buried (wetland) depositions.

Currently, a dozen double-T-handled knives are known (fig. 11), comprising four from the Netherlands (Appelscha, Vroomshoop, Hardenberg, Valthe; originally five: Lanting, 2001: 374), five from Nordrhein-Westfalen (Hävern, Mennighüffen, Schweicheln, Sythen, Wardt), two from Niedersachsen (Quelkhorn, Barriën Bülten) and possibly one or two from Denmark (Vejby, Klokkeholm). Their distribution thus appears to centre

Table 2. Find circumstances and references for double-T handle knives (nos. 1-12) and knives of related type Aub (nos. 13-21; Hohlbein, 2008: 94–101, 116), for location see figure 11 (Findtypes: P = peat-cutting; Tum = tumuli; S = stray find; ? = unknown; H = hoard; D = dredging; C = cremation grave).

| Nos. on fig. 11 | Findplace | Findtype | Publication |
|-----------------|---|----------|---|
| 1 | Appelscha, gem. Oosterwolde, Friesland, Netherlands. Found in peat during reclamations. | P | Butler, 1973: 20, fig. 5; Lanting, 2001: 371 |
| 2 | Valthe, gem. Odoorn, Drenthe, Netherlands. Found in burial mound. | Tum | Butler, 1973: 21, fig. 6; Lanting, 2001: 371 |
| 3 | Hardenberg, gem. Hardenberg, Overijssel, Netherlands. Found when shoveling sand from a partly water-filled old river bed-ding | S | Butler, 1973: 20, fig. 4; Lanting, 2001: 371 |
| 4 | Vroomshoop, gem. Den Ham, Overijssel, Netherlands. | ? | Butler, 1973: 21, fig. 7; Lanting, 2001: 371 |
| 5 | Quelkhorn, Kr. Verden, Niedersachsen, Germany. Found during gravel digging, together with a bronze belt-hook, a bronze ring and fragments of several rings of the same type. | H | Butler, 1973: 23, fig. 8; Prüssing, 1982: 87, <i>Taf.</i> 8:187; Lanting, 2001: 371 |
| 6 | Barriën-Bülten, Kr. Diepholz, Niedersachsen, Germany. Found together with looped palstave. | H | Prüssing, 1982: 87, <i>Taf.</i> 8:186 and <i>Taf.</i> 27A; Lanting, 2001: 371 |
| 7 | Hävern, Kr. Minden-Lübbecke, Nordrhein-Westfalen, Germany. Found during gravel-dredging. | D | Lanting, 2001: 372; Hohlbein, 2008: 114 and <i>Taf.</i> 10: 52 |
| 8 | Mennighüffen, Kr. Herford, Nordrhein-Westfalen, Germany. Presumable grave find according to museum inventory. | G? | Lanting, 2001: 372; Hohlbein, 2008: 114 and <i>Taf.</i> 10:53 |
| 9 | Schweicheln, Kr. Herford, Nordrhein-Westfalen, Germany. | C? | Lanting, 2001: 372; Hohlbein, 2008: 114 and <i>Taf.</i> 11:54 |
| 10 | Sythen, Kr. Recklinghausen, Nordrhein-Westfalen, Germany. | ? | Lanting 2001: 372; Hohlbein, 2008: 114 and <i>Taf.</i> 11:55 |
| 11 | Wardt, Kr. Wesel, Nordrhein-Westfalen, Germany. Found during gravel-dredging. | D | Lanting, 2001: 372; Hohlbein, 2008: 115 and <i>Taf.</i> 11:56 |
| 12 | Vejby, Amt Frederiksborg, Denmark. Found in a burial mound in a stone cist with capstone, together with a pair of tweezers. | Tum | Thrane, 1972: 167 and fig. 1a-b; Lanting, 2001: 372 |
| 13 | Klokkerholm, Amt Randers, Denmark. Found in a burial mound with two <i>Raupenbügelfibeln</i> and a tutulus. | Tum | Thrane, 1972: 180 and fig. 8:b-e; Lanting, 2001: 373, fig. 2 |
| 14 | Niederursel, Frankfurt am Main, Hessen, Germany. Found with a small <i>Schrägrandbecher</i> . | G? | Hohlbein, 2008: 96–7 and <i>Taf.</i> 7: 39 |
| 15 | Aub, Kr. Würzburg, Bayern, Germany. From cremation grave, found with fragments of two different fibula types, one open neck-ring, 90 small soft-metal rings, c. 160 small spiral rolls, four buttons with handle, fragment of a ring, fragment of a clay bead, glass beads. | C | Hohlbein, 2008: 95 and <i>Taf.</i> 6:34 |
| 16 | Gernlinden, Kr. Fürstentum, Bayern, Germany. From cremation (in urn??). Whether the knife is a stray find or found with fragment of a tanged knife, two-edged razor of type Steinkirchen, fragments of shaft of a straight pin, six small rings, small bucket is not clear. | C | Hohlbein, 2008: 95–6 and <i>Taf.</i> 6:35 |
| 17 | Rettenbach, Kr. Günzburg, Bayern, Germany. Found 1.5 m deep in peat. | P | Hohlbein, 2008: 97 and <i>Taf.</i> 7:40 |
| 18 | Piering, Kr. Straubing-Bogen, Bayern, Germany. Cremation in urn, found with razor with <i>Rahmengriff und x-förmiger Griffverstrebung</i> (Jockenhövel, 1971: 136, no. 239) straight pin with ball-head and decorated shaft, two small bronze rings. | C | Hohlbein, 2008: 96 and <i>Taf.</i> 6:36 |
| 19 | Wiesloch, Rhein-Neckar-Kreis, Baden-Württemberg, Germany. Found during waterworks labor. | S | Hohlbein, 2008: 97–8 and <i>Taf.</i> 7:41 |
| 20 | Gödnitz, Kr. Zerbst, Sachsen-Anhalt, Germany. Part of undocumented/uncertain hoard. | H? | Von Brunn, 1968: <i>Taf.</i> 74-7; Lanting, 2001: 373 |
| 21 | Winterstein, Kr. Nürnberger Land, Bayern, Germany. | ? | Hohlbein, 2008: 96 and <i>Taf.</i> 7:37 |
| - | Provenance unknown | ? | Hohlbein, 2008: 96 and <i>Taf.</i> 7:38 |

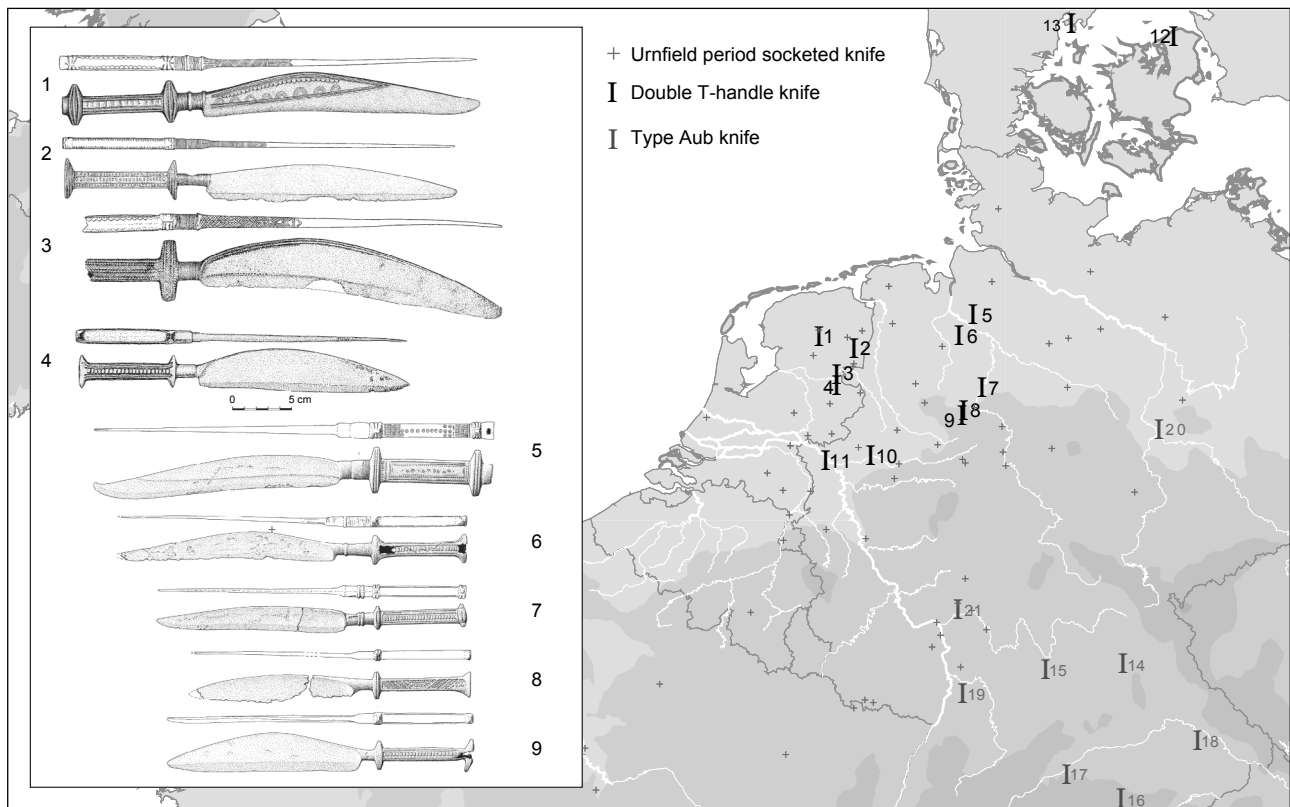


Fig. 11. Distribution map of double-T-handled knives (I1-12) and knives of the related Aub type (nos. 13-21, after: Lanting, 2001; Hohlbein, 2008: 94–101; 116). The numbers correspond to table 2 (inset shows knives 1 to 9 to same scale). Drawing: S. Arnoldussen.

on the area between the lower Rhine and lower Weser rivers (the central part of Region 1; cf. fig. 3), with a notable outlier in Denmark. The core area consequently covers an area of c. 180 by 250 km, and is designated a *westfälisch-nordostniederländischen Lokalgruppe* by Hohlbein (2008: 93, 103, 369). The double-T-handled knives may have been a local recreation of the morphologically related southern German knives of the Aub type (Hohlbein, 2008: 112, note 3, 117). A closely related (yet open-handled) knife was found around 1851 in a barrow at Klokkerholm (Lanting, 2001: 372; Thrane, 1972: 180, no. 21, fig. 8:b-e), together with a *Raupenbügelfibel* and a *tutulus* – not unlike that of the Drouwenerveld hoard (see above). It shows that the Netherlands (and adjacent Germany; i.e. Region 1) related to southern Scandinavia in ways that allowed Region 1 to be both a destination area for Nordic artefacts (Butler, 1986) and a source of inspiration (or origin) for types of knives found in the Nordic area proper.³⁶

The dating of this class of knives is difficult. In his survey of the admittedly meagre evidence, Lanting (2001: 373) attributes the production of knives with double-T handle to Nordic Period IV (HaA2/B1, c. 1100-900 cal. BC); adding that such knives “...were already produced during the earlier part of this period, i.e. during HaA2. There is no reason to date the knives around the transition of Period IV to Period V, that is the transition of

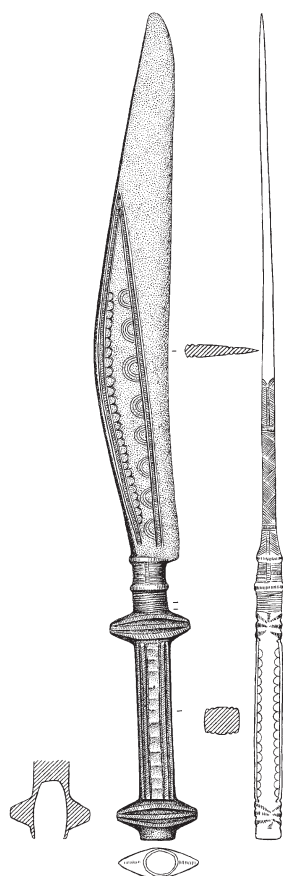
HaB1 to HaB2/3 as Butler would like, let alone to date them to Period V or even Period VI, as Tackenberg suggested”. Hohlbein’s (2008: 115/116) review of the available evidence does not prompt a revision or refinement of this general dating. It suggests that double-T-handled knives largely predated the single-edged socketed knives (see above).

(DB 1422) APPELSCHA, *GEMEENTE OOSTSTELLINGWERF, FRIESLAND* (fig. 12)

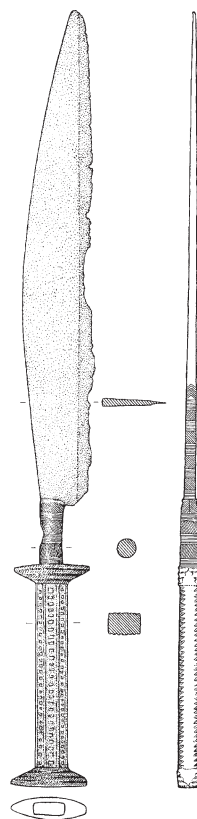
L. 36 cm. A long double-T-handled knife, handle decorated with rectangular zones defined by lines on faces, top and bottom decorated with lines of swags, the T crossbars decorated with slightly convex grooves, mid section decorated with circles and two ribs. Back of blade decorated with herringbone pattern that alternates with fields of zigzag hatching, terminating again with a herringbone pattern. The faces of the blade are decorated near the back of the blade with parallel grooves that border an interjacent higher zone with hatching, from which ‘hang’ 27 small ‘hanging’ hemiscircles drop. Halfway along the blade is yet another set of parallel grooves enclosing a hatched higher zone. ‘Standing’ on these lines are eight larger threefold arcs.

Found in 1933 by workmen during heathland reclamation, under a layer of driftsand, at c. 1 m depth in a thin layer of peat. Patinated to a dark brown colour, but showing copper in recent scratches near the cutting edge and tip. Museum: Leeuwarden, Inv.no. 218-42 (purchased December 1935 from H.J. Popping).

Map reference: Sheet 11H, c. 219/552.

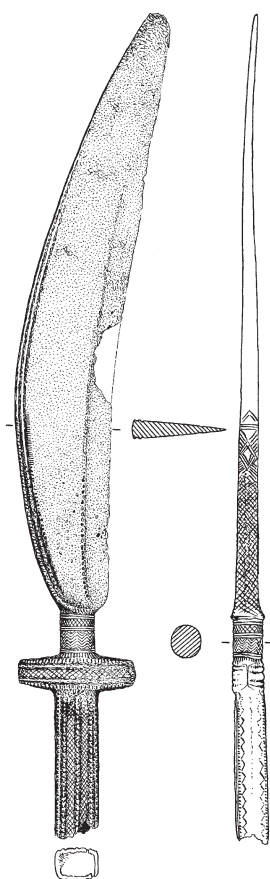


Appelscha (DB1422)

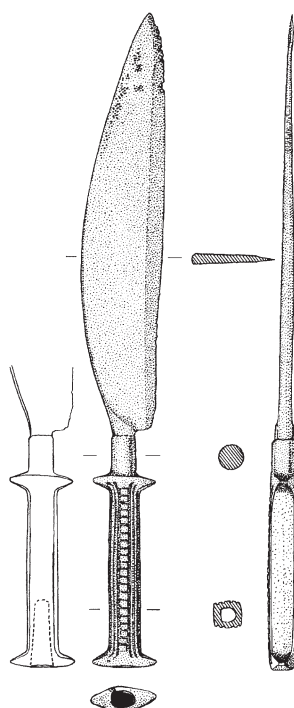


Valthe (DB1841)

0 5 cm



Hardenberg (DB1728)



Vroomshoop (DB1353)

Fig. 12. Knives with double-T handles from the Netherlands (all to the same scale). Drawings: GIA, Groningen

References: Byvanck, 1946: 161, 180, fig. 40; Boeles, 1951: 52/53, Pl. VII; De Laet & Glasbergen, 1959: 150, Pl. 32; Tackenberg, 1971: 123–6, *Liste* 60, *Taf.* 29:3; Butler, 1973: 20, fig. 5; Fokkens, 1991: 201; Essink & Hielkema, 1997/98: 311, no. 271; Lanting, 2001: 371.

(DB 1841) VALTHE/EMMEN, *GEMEENTE* ODOORN, DRENTHÉ (fig. 12)

L. 33.2 cm. A long double-T-handled knife (cast in one piece). Blade of triangular section with a gently curved back, partly arched and partly flat, bearing incised ornamentation. Handle of rectangular cross-section, containing a rectangular cavity. The ornamentation on the sides of the handle appears to be cast, but incised decoration occurs on the upper and lower faces. The ends of the handle take the form of boat-shaped projections, the faces of which bear nicked ribs. Between blade and handle is a transitional bar of oval section, bearing incised decoration. The cutting edge is battered and broken. Patina: glossy, mottled green patina. Found in 1819 by R. Boulken (*schout* of Odoorn) in a partly wind-eroded tumulus near Valthe, probably in the Valtherspaan sand-drift area (Lanting, 2001: 367/368). The frequently quoted association with a bronze pin is erroneous (*ibid.*). Museum: Museum Assen, Inv.no. 1863/1.9a.

Map reference: Sheet 28B, c. 236/496.

References: Westendorp, 1819: 82; Westendorp, 1822: 11, 326; Byvanck, 1946: 180; Boeles, 1951: 53; Butler, 1973: 15–27, fig. 6; De Laet & Glasbergen, 1959: 150; Essink & Hielkema, 1997/98: 310, no. 266; Lanting, 2001: 371.

(DB 1728) HARDENBERG, *GEMEENTE* HARDENBERG, OVERIJSSSEL (fig. 12)

L. + 35.6 cm (blade 26 cm). Double-T-handled knife. Blade crescentic, with two grooves (partly edged with *pointillé*) along curved back. Incised crisscross ornamentation on convex back terminating in a simple geometrical motif. Part of blade broken out, broken surfaces patinated. Cutting edge sharp. The connecting (neck) rod (17–19 mm, diameter slightly oval, 1.5x1.3 cm) is ornamented with incised grooves enclosing a band of cross-hatching and a band of parallel zigzags. The connecting rod is short and thick; presumably this was dictated by the great size and weight of the blade to be supported. Part of the handle is missing, breaks are patinated; the handle is rectangular in section and hollow-cast, 0.2 cm thick at the broken end. The cavity extends a considerable distance into the handle; deep within are the remains of an unidentified core. Its faces are ornamented, on the surviving original part, with parallel ribs and grooves, which are nicked (much of the original surface of this part of the knife has been obscured by a modern repair in brass). The cross-hatching here was applied by owner G.J. Eshuis, and is not original. The three pairs of parallel grooves are separated by flat surfaces with incised cross-hatching. On the top and bottom faces only zigzag lines and lines of punchmarks have been used. The patterns on the rectangular part of the handle are clearly shown in the drawing. Patina: dark brownish/black, slightly corroded in places.

Found in 1937 by H.J. Zweers of Hardenberg, during the digging of a drainage canal (the Radewijkerbeek) along what is now the northern edge of the town, while shovelling sand from the bottom of the already partly water-filled canal bed at a depth of c. 2 m (Butler, 1973: 18/19, fig. 2). Double-T handle partly restored in modern brass by a local blacksmith after a fall from the wall where the finder displayed it.

Around 1947 the knife was sold to G.J. Eshuis from Almelo, antiquary and collector, then stolen around 1997, and now lost.

Map reference: Sheet 22D, c. 238.5/511.

References: Butler, 1973: 15ff, figs. 1 and 4; Lanting, 2001: 371.

(DB 1353) VROOMSHOOP, *GEMEENTE* DEN HAM, OVERIJSSSEL (fig. 12)

L. 28.1 cm (handle: 9.9 cm; blade: 5.5 cm). Double-T-handled knife, cast in one piece. Blade with curved back; a cylindrical (neck) rod connects the blade to a handle of subrectangular cross-section with 'double-T' terminals. Faces of handle ornamented with lines and squares. The handle has an oval opening in the butt, 9.5x7.5 mm in diameter, 2.85 cm long. Patina: dark bronze to black. Well preserved.

Found in 1878: 'near the canal' according to Pleyte (1885); "excavated from a tumulus" according to a letter of G. ter Kuile to J.H. Holwerda (9 May 1905, in the RMO archive; but Pleyte never mentions a tumulus, and the patina rather suggests a peat context. Museum: Enschede, Inv.no. 491; donated by H. Lamberts, dispensing chemist at Almelo.

Map reference: Sheet 28B, c. 236/496.

References: Pleyte I, 8; II, Pl. IV:2; Sprockhoff, 1941 (II): *Taf.* 38.1 (wrongly identified as from Valthe, Drenthe); Tackenberg, 1971: 123–5, *Taf.* 29:1; Butler, 1974: fig. 7; Lanting, 2001: 371.

THE MEELKER COLLECTION (LOST), PROVENANCE UNKNOWN, SOUTHEASTERN DRENTHÉ

A letter from H. Voogd of the Drents Museum at Assen to A.E. van Giffen in 1924 mentions a possible fifth double-T-handled knife, which at that time was present in the – now lost – collection of Mr Meelker (supervisor to the Exloo foresters). Unfortunately, it was not acquired by any Dutch museum and must now be considered lost. Only a sketch in the aforementioned letter remains.

Reference: Lanting, 2001: 374/375, fig. 3.

8.3. FULL-HILTED KNIVES (OTHER THAN SOCKETED OR DOUBLE-T-HANDLED KNIVES) FROM THE NETHERLANDS

Only a single full-hilted (*Volgriff*) knife, other than the double T-handled knives discussed above, is currently known from the Netherlands. This is a relatively rare type of knife with a faceted blade and decorated blade back, three clusters of ribs along the handle, and saddle-shaped protruberance over an open-cast haft (fig. 10, DB1078). It forms part of a small group ($n = 3$ or 4) of knives known as the Ehingen type (De Mortillet, 1881: nos. 878–879 and Pl. LXXIX; Hohlbein, 2008: 106–9; *Taf.* 9), which are found mostly in central and southern Germany, near the upper courses of the rivers Rhine and Danube (Müller-Karpe, 1980: *Taf.* 399). Their dating is problematic, but is likely to focus on Ha-A1/A2 (Kytlicova, 2007: 257) or HaA2 (Hohlbein, 2008: 108). The findspot nearest to Maastricht is situated at c. 200 km distance, at Mainz-Ebersheim (Hohlbein, 2008: *Taf.* 58). Once again, we see that – in this case, technologically sophisticated and lav-

ishly decorated – Urnfield-period knives enjoyed a wide distribution.

(DB 1078) CABERG, *GEMEENTE MAASTRICHT*, LIMBURG (fig. 10)

L. 28.4 cm. Composite tanged, single-edged Urnfield knife (*Vollgriff*), faceted blade (tip broken off) with damaged cutting edge; handle with three encircling sets of three ribs; open saddle-form feature with bent pin between second two rib-pairs, terminal broken off and missing. Decorated back (for details see drawing); first and last encircling rib of set of ribs closest to the blade decorated with small, oblique incised lines. Patina: green.

Collection GIA Groningen, 1938/X.3, purchased from collector/dealer E. van Aelst, together with two Geistingen socketed axes (cat.nos 550 and 551, see Butler & Steegstra, 2001/02: 305).

9. CONCLUSION

This overview and discussion of the data sets for single-edged socketed Urnfield knives from the Netherlands (and beyond) and additional Dutch Late Bronze Age bronze knife types, now allows an improved interpretation of the distribution of single-edged socketed Urnfield knives. Moreover, it is possible to discuss the distribution of Dutch knives of various types in relation to the problematical reconstructions of Late Bronze Age interaction zones as mentioned in the Introduction.

With regard to the interpretation of single-edged socketed Urnfield knives and their distribution, the craftsmanship of most single-edged socketed Urnfield knives is remarkable in itself, some knives – given their impressive length and/or decoration – may have been display items in addition to their functional aspects. Moreover, their positive appreciation not only allowed (or indeed encouraged?) their incorporation into hoards, but even outweighed the fact that several knives were incomplete (tips of blades or blades mostly broken off) at the time of deposition. In such cases, the incomplete knife may have stood as a *pars pro toto* aide-mémoire for functionalities (e.g. ritual) meat consumption?) and connotations (e.g. supra-regional embeddedness) of its former owner(s). Two important aspects should be stressed here.

Firstly, there is a substantial possibility that the – often well-crafted and lavishly decorated – single-edged socketed Urnfield knives selected for deposition in votive deposits or as grave goods are the chronological and conceptual heirs to the double-T-handled knives and *Volgriffmesser* of the Ehinge type, which may have preceded them. Probably, all phases of the Late Bronze Age saw a (then numerically dominant) range of simpler tanged knives, which unfortunately rarely allow typological seriation, that formed the main body of utilitarian knives. In each phase these were supplemented by a class of special (and frequently imported) knives that must have been of more than merely functional significance.

Secondly, it may very well be that part of the prominence and the presence of such special knives was due to these knives being exchanged between communities, on a considerable geographical scale. From the corpus of Dutch single-edged socketed Urnfield knives, those of Havelte (with its V-form junction) and Schoonebeek (in its combination of decorative pattern and knife type probably of *palafitte* affinity) illustrate this clearly. In such deposits (fig. 9), frequently objects of evident local provenance are combined with objects of extraneous origin³⁷ as is the socketed axe in the Havelte hoard (Butler & Steegstra, 2003/04: 267). Similarly, the omega bracelets that accompanied the single-edged socketed Urnfield knives in the hoards of Bruggelen (Butler & Steegstra, 2007/08: 392/393, which also contained a non-local axe; cat.no. 600; Butler & Steegstra, 2003/04: 207) and Elsenerveen (Butler & Steegstra, 2002/03: 296/297) are classified as distinctly local ('North Dutch omega bracelets'; Butler & Steegstra, 2007/08: 381).

Why it was important to combine local items with objects of supra-regional associations, remains obscure (cf. Thrane, 2001: 556). Fontijn (2008: 15) has argued a convincing case that some hoards, such as the famous Voorhout hoard, may represent sub-sets from larger collections of (scrap) items; part of the latter may have been sacrificed in order to legitimize (render 'morally positive'; *sensu* Parry & Bloch, 1989) the smelting and reworking of foreign metalwork into local new objects. From this point of view, the presence of scrapped single-edged socketed Urnfield knives in the hoards of Havelte, Elsenerveen, and Bruggelen (fig. 9) and the presence of metal-working debris – casting jets in the hoards of Havelte and Drouwenerveld – would not be coincidental.

The overall distribution of single-edged socketed Urnfield knives can be regarded as a network of three main regions of occurrence (figs. 3, 13A, 13C). Region 3 represents what is traditionally considered the birthplace of the single-edged socketed Urnfield knife: the French-Swiss *palafitte* region. In this study, we have argued for a subdivision of this region into an eastern part and a western part. The eastern part concerns the *palafitte* area proper, with the various lakeshore sites and large numbers of recovered knives (and some moulds; hatching slanted to the left in fig. 13A). The western part is the area where such knives were by preference deposited in rivers or in votive hoards (hatching slanted to the right in fig. 13A). Region 3 forms the eastern core of the wider distribution of knives with V-form junctions (fig. 3; fig. 13C), which are mostly single specimens from hoards, although four originate from the Vénat hoard (table 3, no. 72). This preference for deposition, generally low numbers and absence of moulds seems to suggest that the single-edged socketed Urnfield knives with V-form junctions either originated from, or were inspired by this eastern concentration (Region 3).

Region 2 (the Main-Rhine confluence area) is based primarily on the density of finds of single-edged socketed

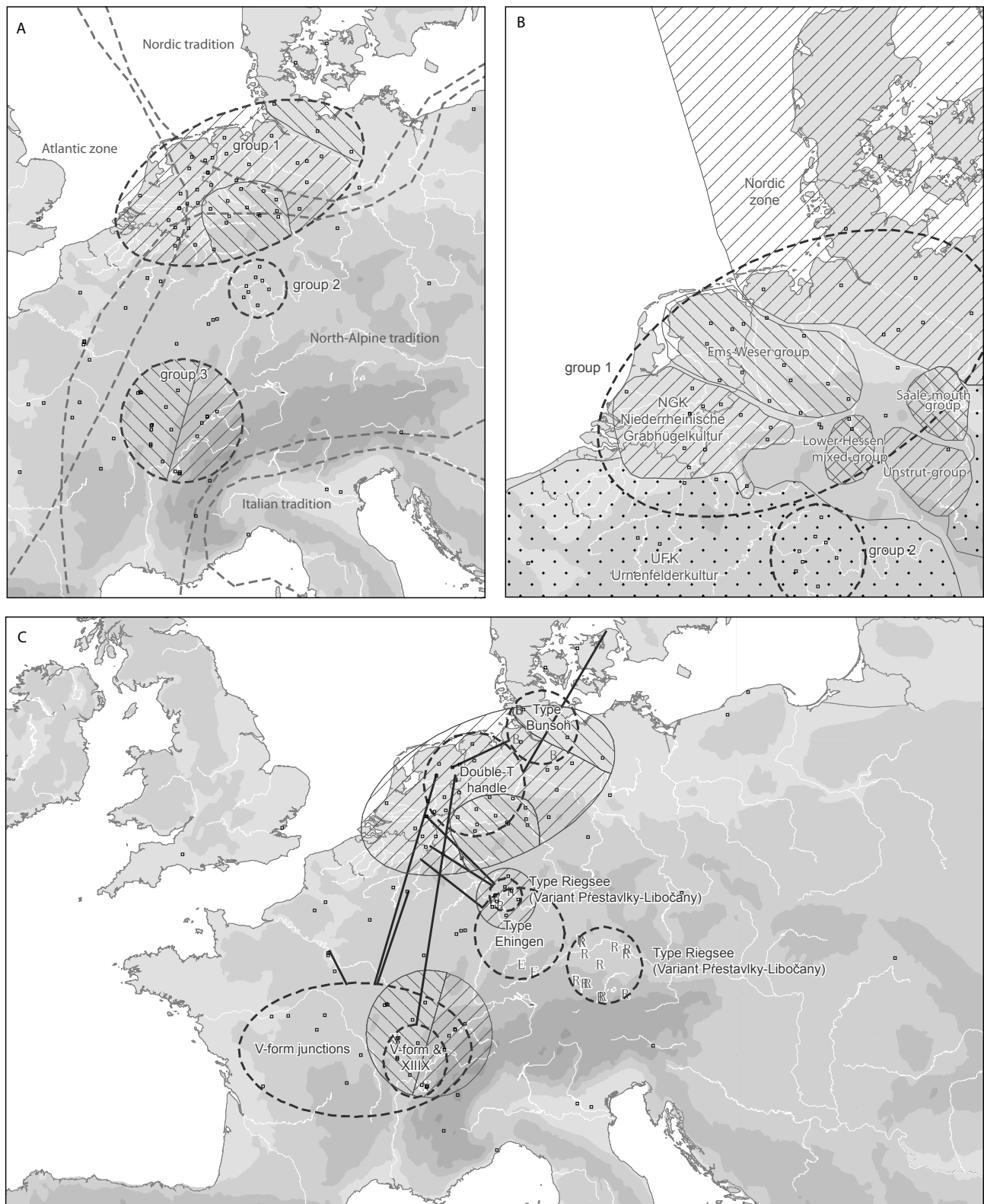


Fig. 13. A. Location of three main regions of analysis (black dashed lines) in relation to the distribution of single-edged socketed Urnfield knives (open black squares) and northwest-European interaction zones of the MBA-LBA transition according to Harrison (continental 'traditions'; 2004: 174) and Brun ('Atlantic zone'; 1991: fig. 3). B. Location of analysis regions 1 and 2 (black dashed line) in relation to the distribution of single-edged socketed Urnfield knives (open black squares) and northwest-European 'culture-groups' of the LBA according to Deiters (2008: 51) and Verlinde & Hulst (2010: 106, 113). C. Map showing contacts and affiliations for Late Bronze Age knife-types (dashed black line; area of origin, connecting line: displacement), in relation to the distribution of single-edged socketed Urnfield knives (open black squares) and main analysis regions (in half-tone grey hatching). Drawing: S. Arnoldussen.

Urnfield knives. As such, it is more likely to be an artifact of research and retrieval parameters than of prehistoric communities. In this region, single-edged socketed Urnfield knives originate mostly from hoards³⁸, but others represent dredging finds (*i.e.* river deposition) and one knife was in a grave. It remains unproven that any single-edged socketed Urnfield knives were produced in this region, as so far no moulds have been found. Meagre support for Region 2 as a prehistoric entity may be found in the fact that the western cluster of the Riegsee-type (Variant Přestavky-Libočany) knives³⁹ as mapped by Hohlbein (2008: 216ff; *Taf.* 31) falls entirely within the confines of Region 2.

Region 1 encompasses the Netherlands and covers large parts of adjacent Germany. Although the distribution shows no evident concentrations, and finds of single-edged socketed Urnfield knives are generally single, the various knives known and the mould fragments known from Someren and Ameln (table 3, nos. 52 and 101) render the local production of single-edged socketed Urnfield knives plausible. Although T-form junctions are common in Region 1, they are not confined to, and consequently not diagnostic for, this region.

We have already argued that, by comparing the frequency of single-edged socketed Urnfield knives used as grave goods, two distinct areas within Region 1 could be identified where funerary contexts predominate: the southern Scandinavian area north of the river Elbe, and the area between the Mittelland canal and the river Rhine; hatching slanted to the right in fig. 13A. The more northerly of these, the southern-Scandinavian area, is the probable homeland of knives of the Bunsöh type (Prüssing, 1982: nos. 232-236; Hohlbein, 2008: 158), which are found in association with single-edged socketed Urnfield knives in the hoards of Drouwenerveld (fig. 9) and Petit-Vilatte (Milcent, 1998: 56). It is notable that the distribution of double-T-handled knives (Prüssing's (1982: 87) type Barrien-Bülten/Vejby) falls almost entirely within the confines of Region 1, which suggests that the exchange networks in which the double-T-handled knives were produced and exchanged may have persisted into the days when the single-edged socketed Urnfield knives became dominant.

In the Introduction, we stated that the area of the Netherlands was situated at the interface of various interaction zones (varying with the types of reconstruction used) and that single-edged socketed Urnfield knives might allow a better definition of such interaction spheres. The results are quite striking.

To start, it seems that to label these knives single-edged socketed *Urnfield* knives may be a misnomer. Indeed, the *palafitte* concentration (Region 3) and the Main-Rhine confluence area (Region 2) are well within most reconstructions of the 'Urnfield' or 'north-Alpine' interaction sphere (fig. 13A), yet almost as many knives have been found in Regions 1 and 2 as originated from the *palafitte* settlements proper. Evidently the distribu-

tion can no longer be seen as radiating out from there (Butler, 1986: 146); other regions too must have seen their production, most notably Region 1, as proven by the recovered moulds. Moreover, if the distribution of a typical 'Urnfield' ornamental element such as the 'XIIIX' motif on Late Bronze Age knives is mapped (fig. 8), this distribution poorly matches that of the single-edged socketed knives. Whereas the (tanged) knives decorated with this motif indeed have a Central European 'Urnfield-culture' centre of gravity, the distribution of single-edged socketed knives⁴⁰ shows a distinctly more westerly centre of gravity.

The second result is that the distribution of single-edged socketed knives proves difficult to align with a traditional 'Atlantic/Continental/Nordic' interaction zone. For a start, only a modest number of single-edged socketed knives are known from Brun's (1991: fig. 3) Atlantic zone, and these knives may represent a periphery of core areas situated eastward in Region 3 and centrally in Region 1 (fig. 13A). The uneven distribution of single-edged socketed knives in different regions suggests that more local factors were at play than a simple 'north-Alpine versus Atlantic' interface, with different regions seeing single-edged socketed knife production at different moments, with different distributions and on differing scales. Moreover, Region 1 is situated at the very interface of the traditional 'Nordic', 'Atlantic' and 'Urnfield' traditions (fig. 13A), and the density of single-edged socketed knives (and their moulds) recovered there suggests a rather more prominent role than that of a mere exchange-zone periphery. The links between the Dutch-German lowland areas and the southern Scandinavian area in Region 1 may very well have roots predating the single-edged socketed knives, as – at an earlier date – this was also the core region of double-T-handled knives (fig. 13C) and maintained connections documented by the distribution of the Bunsöh-type knives (fig. 13C). Considering the contexts of the recovered knives (in the Netherlands and Belgium seldom in graves, in Germany and Denmark in graves; fig. 13A), it is evident that Region 1 in itself is already too large to expect uniformity in the role of single-edged socketed knives.

Moreover, matching the distribution pattern of single-edged socketed knives with that of a Late Bronze Age *Kulturgruppe* (fig. 13B) is equally problematic. Region 2 appears to be situated well within the *Urnenfelderkultur* area, but the validity of this 'region', given its small size, absence of moulds, varied contexts and possible research bias, has already been questioned above. In its present form, Region 1 appears to span various *Kulturgruppen* such as the *Niederheinische Grabhügelskultur* (NGK), the Ems-Weser group, the *Niederhessische Mischgruppe* and part of a Nordic zone (fig. 13B). The single-edged socketed knives from Region 1 cannot evidently be linked to such regional groups. Rather, the scarcity of single-edged socketed knives as grave goods in what are now Belgium and the Netherlands, as against their com-

mon incorporation in German graves, suggests a west-east differentiation *within* groups such as the NGK and Ems-Weser group. Whether the overlap between the core region of double-T-handled knives and the Ems-Weser group is coincidental or fundamental is a tantalizing question, yet beyond the scope of the present paper. The distribution of knives of the Riegsee (Variant Přestavlky-Libočany) and Ehingen types⁴¹ moreover shows that areas beyond the strict confines of the presently defined regions remained in contact with each other.

In conclusion, our study of single-edged socketed knives has shown that traditional interpretational frameworks for Later Bronze Age interaction zones can benefit much from the (re)study of additional find categories that were part of such interactions. Coinciding poorly with traditional boundaries of exchange or interaction zones, single-edged socketed knives appear typical of at least two regions, which are separated by junction type but are linked by decorative traditions, knife usage, and depositional patterns. If we leave aside the *palafitte* area proper, their distribution may be considered to lie primarily beyond the 'Urnfield Culture' after which they have been traditionally named. Where information on the context of such knives is sufficiently detailed (for example whether they are in graves or not, or whether they express supra-regional affinities in hoards), it is possible to identify even more locally variable ways in which single-edged socketed knives were perceived.

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11. NOTES

1. Sources describing the Netherlands as part of the 'Atlantic zone': Coffyn, 1998: 173; Harrison, 2004: 174; Quilliec, 2007b: 94.
2. Sources describing the Netherlands as situated on the boundary of the 'Atlantic zone' and 'Urnfield zone': e.g. Brun, 1988: 602; 1991: figs. 3–4; Gouge & Peak, 2005: 336; Cunliffe, 2008: 257.
3. Sources describing the Netherlands as situated well within the 'Urnfield' and/or North-Alpine zone: Needham & Bowman, 2005: 125; Cunliffe, 2008: 231, cf. Cunliffe, 2009: 80.
4. Sources describing the Netherlands as situated between the various regions altogether: e.g. Brun, 1986: 61, fig. 38; 2005: 140; Kristiansen, 2000: 87; Harrison, 2004: 167; Quilliec, 2007a: 121–3.
5. For example: *Urnenfelderkultur, Niederrheinische Grabhügelkultur, Ems-Weser-gruppe* and *Nordischer Kreis*; Deiters, 2008: 51, cf. Verlinde & Hulst, 2010: 105–113.
6. For example: Briard, 1965: 118–122, 195–8, 233; Warmenbol, 1991b: 100–5; Coffyn, 1998: 170–4; Quilliec, 2007a: 20–7.
7. Kimmig, 1940; Briard, 1965: 233/234; Brun, 1986: 61–3; 1988: 599; De Mulder, Leclerc & Van Strydonck 2008, cf. Bourgeois & Talon, 2009: 53.
8. Compare: Kimmig, 1954: 110; Jockenhövel & Smolla, 1975: 301–6; Coffyn, Gomes & Mohen, 1981: 34/35; Briard, 1965: 233; Warmenbol, 1988a: 3.
9. Cf. the antler handle from Hauterive; Ruoff, 1974: *Taf.* 36, no. 11.
10. For example: Prüssing, 1982: 142; Hohlbein, 2008: 328.
11. For example: the grave of Rheda-Wiedenbrück; Hohlbein, 2008: 333/334.
12. Harding, 2000: 374; Levy, 1982: 69; Milcent, 1998: 58, cf. Verlaeck, 2001: 557.
13. Compare: Milcent (1998: 60) who identifies one knife as belonging to a female, versus Gauthier (2003: 27), who labels such knives as masculine attributes.
14. But see Hohlbein (2008: 17), who argues against frequent repairs for his study area.
15. Motif 15 of Gessner's '*Diagonalkreuz-Strichgruppen-Reihen*' (1946: 43, 163, *Taf.* 1:15; 135, note 186).
16. For example: the *Vollgriff* knife from Bevaix, Lac de Neuchâtel (Rychner, 1980: 129, fig. 14).
17. For example: Mukačev; table 3, no. 94, dated to BzD-HaA2; Kopal, 2000: 88, cf. Butler, 1986: 148.
18. Verlinde, 1987: 193–7; Lanting & Van der Plicht, 2003: 214–6; Helsing & Kooi, 2005: 636, 653, note 15; Brink-Kloke, Heinrich & Bartelt, 2006: 20, *Taf.* 8; Herrig, 2009: 262.
19. For example: Bradley, 2002: 53; Burgess & O'Connor, 2008: 57.
20. The hoard of Kattenbühl comprised a rod-tanged knife, socketed axes, a high-winged axe, a sickle and a bracelet, the hoard of Ostrhauderfehn contained with spacers, rings and a spearhead and the Holzhausen hoard consisted of a razor, awl, neckring fragments, wire and glass beads (Prüssing, 1982: *Taf.* 14, nos. 277–278 and *Taf.* 15, nos. 283–284; table 3, nos. 17, 22, 23).
21. The Hochstadt hoard included carp's-tongue sword fragments, Homburg-type winged axes and Helmeroth socketed axes, rings, sickles and a rod-tanged knife (Kibbert, 1984: *Taf.* 95, no. 15). The Nächstenbach hoard comprised sword fragments, spearheads, winged and socketed axes, *Bombenkopfnadel*, brooches and rings (Hohlbein, 2008: 333).

22. Mostly Bf IIIb, see table 3 for references; nos. 59–62, 65, 68–70, 72, 74, 79.
23. Saint-Gènes-Champanelle, Petit-Villate, see table 3 for references; nos. 63–64, *cf.* Gauthier, 2003: 24.
24. Mostly at lakeside settlements in the French-Swiss Alps.
25. For example: Kooi, 1979; Verlinde, 1987; Verlinde & Hulst, 2010.
26. Particularly as other bronze items, predominantly pins, arm- and neckrings, razors and tweezers do – albeit seldom – occur there; Kooi, 1982: 42–4; Verlinde, 1985: 284(214)–288(218); Tol, 1998: 12; 1999: 98 Schabbink & Tol, 2000: 40–2; Hulst, 2010: 58–64.
27. For example: the ten knives from the cave of Han-sur-Lesse in (Mariën, 1984: 389–390; Warmenbol, 1988b; 1991a: 226).
28. For example: Desittere, 1968b: 25, 36; Menke, 1972: *Taf.* 34, 37; Prüssing, 1982: 11–3; Hohlbein, 2008: 28, *Taf.* 2.
29. Maastricht-Amby (no. 108) may have formed part of this zone as well.
30. For a T-form junction knife; NL: Hiddink, 2008: 8; Kuijpers, 2008: 145/146, *cf.* Hiddink & De Boer, 2011.
31. Compare: Hohlbein (2008: 17, 28) who lists 1780 *Griffdorn-/Griffangelmesser* versus 450 *Vollgriffmesser*, *Rahmengriffmesser*, *Griffplattenmesser*, *Griffzungenmesser*, *Tüllengriffmesser* and *Sichelmesser* from the same study area.
32. For example: the knives of Odoorn and Bargerooosterveld; fig. 10, DB1189; DB1180.
33. Compare: the knife of Matrei type with organic handle-plates still attached, from Innsbruck-Wilten (Probst, 1996: 405; Hohlbein, 2008: *Taf.* 43).
34. Thrane, 1972b; Hohlbein, 2008: 13. The Hardenberg knife's handle contained sand conjoined with amorphous charcoal; Bottema, 1972.
35. NL: *offer messen*; D: *Kultgeräte*; Butler, 1973: 15; Prüssing, 1982: 87; Koschik, 1993: 117–127; Lanting, 2001: 367–376; Hohlbein, 2008: 19.
36. For example: the Klokkeholm knife that is of Region-1 origin, or at least inspiration or derivation.
37. For example: the Schoonebeek axes that are of local style (Butler & Steegstra, 2003/04: 254, 265).
38. With three knives originating from the Hochstadt hoard; table 3, no. 39.
39. The Dutch knives of Leerop and Nijmegen may be representatives of this type.
40. Particularly the knives with incised decoration.
41. From Region 2 into the southern part of Region 1 (fig. 13C).

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Table 3. List of single-edged socketed Urnfield knives by country. Under 'Findtype' the context of the find is described (H = hoard; S= stray find; G= grave; Set= settlement; D= dredge). Numbers correspond to the various maps (a.o. fig. 1).

| No. | Findplace | Findtype | Socket junction | Decoration |
|------------------------|---|-------------|-----------------|------------|
| The Netherlands | | | | |
| 1 a, b | Schoonebeek, gem. Schoonebeek, Drenthe. Two examples in hoard with socketed axes, spearhead and spacer. Decoration knife 1a: ribs around mouth, XIIIIX on back of blade; knife 1b: no decoration (Butler, 1986: fig. 25:1, 2). | H (2 ex) | T | Y/N |
| 2 | Schoonebeek, gem. Schoonebeek, Drenthe, near formerly boundary post 156. Decoration: ladder pattern at mouth and base; incised lines and pointillé on back of blade (Butler, 1986: fig. 27:4). | S | T | Y |
| 3 | Voorschoten (dunes), gem. Voorschoten, Zuid-Holland (Butler, 1986: fig. 27:3). | S | T | N |
| 4 | Onstwedde, gem. Stadskanaal, Groningen. Decoration: ribs at mouth (Butler, 1968: fig. 2). | S | T | Y |
| 5 | St. Oedenrode, gem. St. Oedenrode, Noord-Brabant (Butler, 1986: fig. 26:3). | S? H? | T | N |
| 6 | Weper/Haule, gem. Ooststellingwerf, Friesland (Butler, 1986: fig. 26:2). | S | T | Y |
| 7 | gem. Venlo, Limburg (Butler, 1986: fig. 27:1). | S | T | N |
| 8 | Nijmegen, Gelderland (Butler, 1986: fig. 26:1). | S | T | N |
| 9 | Nijmegen, Gelderland. Fragment. | S | T | N |
| 10 | Goor, gem. Aalten, Gelderland (Butler, 1986: fig. 27:2). | S | T | N |
| 11 | Het Lok, gem. Havelte, Drenthe. From hoard, with two socketed axes and casting jet. Decoration: incised lines around mouth, semi circles, III lines on back of blade (Butler, 1986: fig. 29). | H | V | Y |
| 12 | Denekamp, gem. Denekamp, Overijssel (Butler, 1986: fig. 26:4). | S | T | N |
| 13 | Bruggelen, gem. Apeldoorn, Gelderland. From hoard (Butler & Steegstra, 2007/08: fig. 10:5). | H | T | N |
| 14 | Elsenerveen, gem. Markelo, Overijssel. From hoard with ribbed bracelets (Butler, 1986: fig. 25:4). | H | T | N |
| 15 | Drouwenerveld, gem. Borger, Drenthe. From hoard, in pot with single loop (Butler, 1986: fig. 4:30). | H | T | Y |
| 16 | Gelderse Poort, gem. Bergh, Gelderland (Wouters, 1989: 65, with drawing). | S | T | N |
| 96 | Stevensweert, Limburg, Nederland. This paper. | D | T | N |
| 101 | Someren-Waterdael III, gem. Someren, Nederland. Settlement. Mould-fragment of socket and part of blade (Hiddink, 2008: 8, with photo). | SET | T | N |
| 108 | Amby, gem. Maastricht, Limburg. Fragment (tip of blade and base of socket missing). Decoration: three parallel horizontal grooves on blade, XIIIIX motif on back of the blade. Found with fragment of razor of Jockenhövel's " <i>Variante Dietzenbach</i> " in the Ambyerveld, in cremation grave with urn (Dyselinck & Warmenbol, 2012: 59–61, fig. 1). | G | T | Y |
| Germany | | | | |
| 17 | Kattenbühl, Kr. Hannoversch-Münden, Niedersachsen. From hoard (Prüssing, 1982: <i>Taf.</i> 29A), with rod-tanged knife, socketed axes, high-winged axe, sickle, bracelet. Prüssing, 1982: <i>Taf.</i> 14:277-278. Dating: Per V. | H (2 ex) | T | N |
| 18 | Düstrup, Kr. Osnabrück, Niedersachsen (Prüssing, 1982: <i>Taf.</i> 14:279). | ? | T | N |
| 19 | (Bad) Pyrmont?, Kr. Hameln-Pyrmont, Niedersachsen (Prüssing, 1982: <i>Taf.</i> 15:280). | ? | T | N |

| No. | Findplace | Findtype | Socket junction | Decoration |
|-----|---|-------------|-----------------|------------|
| 20 | Bremervörde, Kr. Bremervörde, Niedersachsen (Prüssing, 1982: <i>Taf.</i> 15:281). | S | T | N |
| 21 | Neuenkirchen, Kr. Vechta, Niedersachsen (Prüssing, 1982: <i>Taf.</i> 15:282). | S | T | N |
| 22 | Osthrauderfehn, Kr. Leer, Niedersachsen. From hoard (<i>Taf.</i> 29C), with spacers, rings, spearhead (Prüssing, 1982: <i>Taf.</i> 15:283. Dating: Per. V). | H | T | N |
| 23 | Holzhausen, Kr. Wildeshausen, Niedersachsen. From hoard, with a.o. razor, awl, neckring fragments, wire, glass beads (Prüssing, 1982: <i>Taf.</i> 15:284. Dating: Per V). | H | T | N |
| 24 | Leiferde, Kr. Gifhorn, Niedersachsen. Decoration: 2x 4 incised hor. lines around end hilt (Prüssing, 1982: <i>Taf.</i> 15:285). | S | T | Y |
| 25 | Aurich, Kr. Aurich, Niedersachsen. T-hilt. Decoration: ribs on basis hilt, almost faded waves and incised lines (Prüssing, 1982: <i>Taf.</i> 15:286). | S | T | Y |
| 26 | Sterley, Kr. Herzogtum Lauenburg, Schleswig-Holstein. Decorated hilt and blade: semi-circle pattern (Prüssing, 1982: <i>Taf.</i> 15:287). | G | T | Y |
| 27 | Baven, Kr. Winsen, Niedersachsen. Decoration: ribs around hilt-mouth (Prüssing, 1982: <i>Taf.</i> 16:288). | S | T | Y |
| 28 | Kukate, Kr. Lüchow-Dannenberg, Niedersachsen. Decoration: rib around mouth (Prüssing, 1982: <i>Taf.</i> 16:289). | H? | T | Y |
| 29 | Bahnsen, Kr. Uelzen, Niedersachsen. Decoration: ribs around mouth and at end socket (Prüssing, 1982: <i>Taf.</i> 16:290). | S | T | Y |
| 30 | Tellingstedt, Kr. Dithmarschen, Schleswig-Holstein. From barrow (<i>Grabhügel</i>). Incised horizontal lines around mouth (Prüssing, 1982: <i>Taf.</i> 16:291). | G | T | Y |
| 31 | Asseln, Dortmund, Nordrhein-Westfalen. Cremation with two pots in keyhole-shaped grave. Hilt with almost faded incised hor. Lines (Hohlbein, 2008: <i>Taf.</i> 45:368). | G | T | Y |
| 32 | Bad Homburg v.d. Höhe, Hochtaunuskreis, Hessen. From two mixed hoards, a.o. sword, spearheads, high-winged looped axes, socketed axes, sickles, rod-tanged knife, pins, (arm)rings, bracelets, <i>Wendelringe</i> (Hohlbein, 2008: <i>Taf.</i> 45:369). | H | T | N |
| 33 | Brebach-Fechingen, Stadt Saarbrücken, Saarland. From hoard, with spearheads, winged looped axe, socketed axes, rings, wire (Hohlbein, 2008: <i>Taf.</i> 46:370). | H | T | N |
| 34 | Delbrück? Kr. Paderborn, Nordrhein-Westfalen. Present locus unknown (Hohlbein, 2008: No. 371). | S | ? | ? |
| 35 | Framersheim, Kr. Alzey-Worms, Rheinland-Pfalz. From hoard, with rod-tanged knife, winged axe, socketed axe, <i>Vasenkopfnadeln</i> , spectacle fibula, arm- und leg-rings (Hohlbein, 2008: <i>Taf.</i> 46:372). | H | T | N |
| 36 | Gambach, Stadt Münzenberg, Wetteraukreis, Hessen. From hoard, with a.o. spearheads, winged axes, rod-tanged knife, sickles, rings. Hilt with 2 ribs at mouth (Hohlbein, 2008: <i>Taf.</i> 46:373). | H | T | Y |
| 37 | Godelheim, Kr. Höxter, Nordrhein-Westfalen. Cremation grave (Hohlbein, 2008: <i>Taf.</i> 46:374). | G | T | N |
| 38 | Herstelle, St. Beverungen, Kr. Höxter, Nordrhein-Westfalen. Cremation in tumulus (Hohlbein, 2008: <i>Taf.</i> 46:375). | G | T | N |
| 39 | Hochstadt, from hoard, Main-Kinzigkreis, Hessen. Hoard, with <i>inter alia</i> sword fragments (carps-tongue, bronze hilted- and tongue grip), spearheads, winged axes (type Homburg), Helmeroth socketed axe, sickles, rod-tanged knife, rings. a. Knives with T-hilt: 376: incised lines; 377: no decoration (Hohlbein, 2008: <i>Taf.</i> 46:376-377; Kibbert, 1984: <i>Taf.</i> 94:15). b. Knife with V-hilt 389: six incised lines around mouth (Hohlbein, 2008: <i>Taf.</i> 50:389). | H (3 ex) | T V | Y N |

Table 3 continued

| No. | Findplace | Findtype | Socket junction | Decoration |
|----------------|--|----------------------|-----------------|--|
| 40 | Kirchborchen, Gde. Borchon, Kr. Paderborn, Nordrhein-Westfalen. Present locus unknown (Hohlbein, 2008: No. 378). | ? | ? | ? |
| 41 | Wahn?, St. Köln, Nordrhein-Westfalen. Cremation? (Hohlbein, 2008: <i>Taf.</i> 47:379) | G | T | N |
| 42 | Reken, Gde. Reken, Kr. Borken, Nordrhein-Westfalen. Decorated blade-back (Hohlbein, 2008: <i>Taf.</i> 47:380). | S | T | Y |
| 43 | Kinderhaus, St. Münster, Nordrhein-Westfalen. Cremation (Hohlbein, 2008: <i>Taf.</i> 47:381). | G | T | N |
| 44 | Nächstenbach, St. Weinheim, Rhein-Neckarkreis, Baden-Württemberg. From hoard, with a.o. sword fragments, spearheads, winged axes, socketed axes, sickles, <i>Griffdornmesser</i> , <i>Bombenkopfnadel</i> , fibulae, rings (Hohlbein, 2008: <i>Taf.</i> 47:382). | H | T | N |
| 45 | Nierstein, Kr. Mainz-Bingen, Rheinland-Pfalz. Grave with two pots (Hohlbein, 2008: <i>Taf.</i> 48:383). | G | T | N |
| 46 | Rheda-Wiedenbrück, Kr. Gütersloh, Nordrhein-Westfalen. Cremation grave with cast bronze bowl, two interlocked rings, five <i>Spiralringe</i> and a spindle-whorl (the <i>Spinwirtel</i> was lost, according to Langewiesche, 1912: 383). Hohlbein, 2008: <i>Taf.</i> 49:384. | G | T | N |
| 47 | Rhein b. Mainz, above the railway bridge (Hohlbein, 2008: <i>Taf.</i> 49:385). | D | T | N |
| 48 | Stockstadt, Kr. Aschaffenburg, Bayern. From river Main (Hohlbein, 2008: <i>Taf.</i> 49:386). | D | T | N |
| 49 | Werne, Kr. Unna, Nordrhein-Westfalen. Grave? Hohlbein, 2008: <i>Taf.</i> 49:387. | G? | T | N |
| 50 | Wittenhusen, St. Porta-Westfalica, Kr. Minden-Lübbecke, Nordrhein-Westfalen. Cremation in urn, with razor (Hohlbein, 2008: <i>Taf.</i> 50:388). | G | T | N |
| 51 | Ameln, Gde Titz, Kr. Düren, Nordrhein-Westfalen. Clay casting mould from settlement pit (Hohlbein, 2008: <i>Taf.</i> 50:390). | Settl | T | N |
| 97 | Groß-Pankow, Lkr. Prignitz, Germany. Decoration: ribbed socke (Sprockhoff, 1956: <i>Taf.</i> 13:2). | G | T | Y |
| 98 | Schmon, Kr. Querfurt, Sachsen-Anhalt, Germany (Bastian & Voss, 1878: <i>Taf.</i> VI:7). | S | T | N |
| 99 | Ziesar, Kr. Jerichow, Brandenburg, Germany. From cemetery field 'Hül- lenberge' (Bastian & Voss, 1878: <i>Taf.</i> VI:15). | G | T | N |
| 110 | Erfweiler-Ehlingen, Gde Mandelbachtal, Saarpfalz-Kreis. Hoard in broken pot of black clay, found on a field at a depth of 20 cm. Contents of the pot (28 fragments): a chape, a socketed chisel, sickles, armrings, a high winged axe, ingots, horse-gear. In the immediate surroundings (10 m) of the pot 24 more objects were found: fragments of sickles, armrings, ingots, socketed axes, a socketed knife and high winged axes. Approximate weight of all objects 6 kg (www.erfweiler-ehlingen.de/ein_bronzezeitlicher_schatzfund_im_acke). | H | T | N |
| Belgium | | | | |
| 52 | Han-sur-Lesse, prov. Namur (Mariën, 1984: 383–392; Warmenbol, 1988a; 1991b: 226). Ten examples, recovered by divers. The wood in the sockets of two V-junction knives has been radiocarbon-dated to 1020–890 BC and 920–800 BC (Warmenbol, 2012: 45); the dating of a third knife (with T-junction) is erroneous (AD 880–990), presumably due to contamination. | Cave exit (10 ex) | 7xV, 3xT | N, except for No. 4714 (facet- ted blade) |
| 107 | Thy-le-Château, prov. Namur? Warmenbol, 1988a: 2–4, fig. 8 | ? | T | N |

| No. | Findplace | Findtype | Socket junction | Decoration |
|----------------|--|----------------------------|-----------------|------------|
| 109 | Han-sur-Lesse, prov. Namur (Warmenbol, 1988b). Found in the cave, but not necessary from the river. | Cave | ? | ? |
| Denmark | | | | |
| 53 | Flenstofte, Dreslette sn, Baag hd, Fyn. Stray find, found among stones of burial mound. T-hilt, decorated with incised lines around mouth and rib. Dating: Per. V (Sprockhoff, 1956: 36–8; Thrane, 1972: 183/184 and fig. 11a; p. 209). Import from Ems-Weser area according to Thrane, 1972: 188. Maybe related to Italian types (thick rib on socket, see Bianco-Peroni 1976, <i>Taf.</i> 25 (type Morlungo)). | G | T | Y |
| 54 | Hedvigsløst near Kalundborg, Amt Holbaek, Seeland. Grave find with razor, in pot. Decoration: incised lines at mouth. Dating: Per. V (Sprockhoff, 1956: 36–8; Thrane, 1972: 184 and fig. 11b; p. 209). Import from “Ems-Wesergebiet” according to Thrane, 1972: 188. | G | ? | Y |
| Austria | | | | |
| 55 | Villach, Bez. Carinthia. From burial mound with stone cist (<i>Steinkistengrab</i>). Type Nazari. Dating: end Urnenfelderzeit (Řihovský, 1972: 73 and <i>Taf.</i> 28:282). | G | T | N |
| Poland | | | | |
| 56 | Kościelnica Sławińska, in hoard with bracelets, spearheads, sickles, rings and antenna sword (Gedl, 1984: <i>Taf.</i> 15:145 and <i>Taf.</i> 31B). | H | T | N |
| 57 | Szolpino, gem. Smoldzino, Woiw. Słupsk. According to Sprockhoff (1941: <i>Taf.</i> 47:1) from Vietkowo hoard, but according to a letter from parish priest Berg of Torgelow to G. Kossina, a stray find in the dunes. Latest publication: Gedl, 1984: <i>Taf.</i> 15:146 (Szolpino). | S | T | N |
| France | | | | |
| 58 | Villeneuve-St.-Georges, Seine-et-Oise. Dredge find (De Mortillet, 1881: Pl. LXXIX:868). | D | T | N |
| 59 | Réallon, Hautes-Alpes. From hoard. De Mortillet, 1881: Pl. LXXIX:869; Nicolardot & Gaucher, 1975 (V): 67, fig. 3. Decoration: incised lines, <i>pointillé</i> and chevrons on hilt and back. Semi-circles on blade. Dating: Bf III. | H | T | Y |
| 60 | Pas-de-Grigny, Seine-et-Oise. Dredge find from River Seine (De Mortillet, 1881: Pl. LXXIX:870; Nicolardot & Gaucher, 1975 [V]: 66, fig. 1). Decoration: ribbed hilt, semi-circles on blade. Dating: Bf III | D | T | Y |
| 61 | Venarey-les-Laumes, Cote-d’Or. From Bf. III hoard. Decoration: four ribs and diagonal punch strokes around mouth (Nicolardot & Gaucher, 1975 [V]: 67, fig. 2; Nicardot & Verger, 1998: fig. 12:5). | H | V | Y |
| 62 | Les Laumes-Semur (entre), Cote-d’Or (Nicolardot & Verger, 1998: 26 and fig. 11:9). Decoration: four ribs and diagonal punch strokes around mouth. Tip broken off. Dating: Bf III b (Nicolardot & Verger, 1998: 26). | S | V | Y |
| 63 | Saint-Genès-Champanelle à Manson, Puy-de-Dôme (Milcent, 1998: 60 and fig. 3:19). Dating: Ha B2-3 (Milcent, 1998: 55) | H | V | N |
| 64 | Petit-Vilatte à Neuville-sur-Barangeon, Cher. One example from hoard of 628 objects (Milcent, 1998: 62 and fig. 4:20). Broken. Dating: Ha B2-3 (Milcent, 1998: 55). | H | V | N |
| 65 | Farébersviller, Moselle. Two examples in hoard of 160 objects (Véber, 1998: 43). Dating: Bf IIIb = Ha B2-3 (Véber, 1998: 46, 54). | H (2 ex) | ? | ? |
| 66a | Lac du Bourget, Savoie (Kerouanton, 1998: 94 and fig. 4:9. Dating: Bronze final II B-III A = Ha A2-B1 (Kerouanton, 1998: 92). Decoration: incised chevrons on back, semi-circles on blade. An undecorated example was published by De Mortillet, 1881: Pl. LXXIX:871. | <i>Palafitte</i> (2 ex) | T | Y/N |

Table 3 continued

| No. | Findplace | Findtype | Socket junction | Decoration |
|----------|---|---------------------------------|----------------------|--------------------------------|
| 66b | Chatillon, Lac du Bourget, Savoie. Half-mould for two socketed knives (Chantre, 1875: Pl. LIII ((with clear V junction)); Déchelette, 1928: 183, fig. 53 ((same mould, but without V-junction)). <i>Could the knives nos. 67b and 73 (in this list) come from this mould?</i> | <i>Palafitte</i> (half mould) | V | N |
| 67a | Grésine, lac du Bourget, Savoie (Kerouanton, 1998: 94 and fig. 5:8, with incised III X III on back ((cf. Schoonebeek knife)) and incised lines around mouth). Dating: Bronze final III B = Ha B2-3 (Kerouanton, 1998: 94). | <i>Palafitte</i> (about 30 ex.) | T | Y |
| 67b | Grésine, lac du Bourget, Savoie. Undecorated, V-junction socketed knife (Chantre, 1874: Pl. LVII:6; Déchelette, 1928: 260, fig. 92:7). | <i>Palafitte</i> | V | N |
| 68 | Amiens-le Plainseau hoard (Bf. III), Somme (O'Connor, 1980: fig. 66:21; Brun, 1986: 150; Opitresco-Dodd, Blanchet & Milotte, 1978: 56–79). | H | T | 2 pairs of 4 grooves on handle |
| 69 | Lay-Saint-Rémy, Meurthe-et-Moselle. Decoration: four ribs around mouth. Dating: Bronze final IIIB (Ha B2-3) (Reboul & Milotte, 1975: F 34). | H | T | Y |
| 70 | Azay-le-Rideau, Indre-et-Loire, Bf. IIIb. (Cordier, Millotte & Riquet, 1959: Pl. 4:40) . | H | V | N |
| 71(a, b) | Sublaines, Indre-et-Loire. V-junction. a. decoration: faceted blade (Cordier & Millotte: 1961, fig. 9:44). Dating: Bronze final II/III (Cordier & Millotte, 1961: 158, fig. 9:44); b. no decoration (Cordier, 1988: fig. 3:6). | S 2 ex. | V | Y/N |
| 72 | Vénat-Saint-Yrieix, Charente. Four socketed knives in hoard of 80 to 100 kg bronzes in vase (diam. 40–45 cm), now scattered over numerous collections (Coffyn, Gomez & Mohen, 1981). One example is decorated with a ribbed socket (12 ribs). Dating: Bronze final III (Coffyn, Gomez & Mohen, 1981: 61). | H (4 ex.) | 3xT, 1xV | N/Y |
| 73 | Le Saut, Savoie (Déchelette, 1928: 260, fig. 92:6). | <i>Palafitte</i> | V | N |
| 74 | Boissy-aux-Cailles, Seine-et-Marne (Bf. III; Nouel, 1957: 299, fig. 90:5) | H | T | N |
| 75 | Sancé, Île Saint-Jean, Saône-et-Loire (Jeannet, 1968: 80, fig. 4:38) | S | T | N |
| 76 | Briod, Lons-le-Saunier, Jura. From Bf. IIIb hoard (Millotte, 1963: ((I)) 275, ((II)) Pl. XXXVI:15; Gauthier, 2003: 36, fig. 17). | H | V | N |
| 77 | Mâcon, Île Saint-Jean, Jura (Millotte, 1963: (I) 312, (II) Pl. XXXIX:8). | D | T | N |
| 78 | Chalon, Saône-et-Loire. Incised decoration on back of two examples: 1. hor. lines; 2. XIIIX motif (Millotte, 1963: ((I)) 277, ((II)) Pl. XXI:1,2,3,9). | D (4 ex) | T (3 ex) V (1 ex) | Y/N |
| 79 | Ray-sur-Saône, Vesoul, Haute-Saône. From Bf. IIIb hoard (Millotte, 1963: ((I)) 332, ((II)) Pl. XLII:23; Rychner, 1984: 399). | H | T | N |
| 80 | Between Chalon-sur-Saône and Verdun-sur-le-Doubs, or in the Doubs near Saunières, Saône-et-Loire (Bonnamour, 1967: 779, fig. 3:1). | D | V | N |
| 81 | Auxonne, Haute-Saône. Decoration (three incised lines) on the blade (Chantre, 1874: Pl. XIII:2). | S | T | Y |
| 82 | Beaumont, River Grosne, Saône-et-Loire. Decoration: 3 x 5 incised lines around mouth and socket; blade: three incised lines with hammering above and below (Chantre, 1874: Pl. XIII:3; listed as Grasere, Haute-Saône in Thrane, 1972: List 3). | D | T | Y |
| 83 | Chateau-Gaillard, Ain (Chantre, 1874: Pl. XIII:4). Top broken off. | S | T | N |

| No. | Findplace | Findtype | Socket junction | Decoration |
|--------------------|--|----------------------------|----------------------|------------|
| 84 | Station des Fiollets, Lac du Bourget, Saône. Decoration: ribbed socket, incised lines and lozenges on back of the blade (Chantre, 1874: Pl. LVII:6). | Palafitte | T | Y |
| 102 | Choisy-le-Roi, Région de Paris. Decoration: 3 ribs around socket-mouth; incised lines on first part of back (Mohen, 1977: 166, No. 567). | S | V | Y |
| 103 | Epineuse (près D'Alise-Sainte-Reine), Côte d'Or. In Bf IIb hoard with a high-winged axe, 3 spearheads, rings etc. Decoration: incised lines around socket-mouth (Kimmig, 1954: 214, fig. 93a; De Soto & Kerouanton, 2009). | H | V? | Y |
| 104 | Juvincourt-Damary, Aisne. Fragment with socket. From hoard containing more than 60 bronzes, a.o.: 1 <i>Vollgriff</i> knife, 2 carps-tongue swords, 6 spearheads, 6 socketed axes, 3 socketed daggers, 1 gouge, 1 socketed hammer, bracelets, rings, 1 hollow ball-head pin (Jockenhövel & Smolla, 1975; Blanchet, 1984: fig. 164:8; 483/484; Brun, 1986: 149). | H | T | N |
| 105 | La Balme, Savoie. V-junction, 4 ribs around mouth (Bocquet, 1976: 490 and fig. 6:4). | S | V | Y |
| 106 | Issoudun, Indre. V-junction, 4 ribs around mouth (Cordier, 1976: 549, fig. 3:7). | ? | V | Y |
| 111 | Ferté-Hauterive, Allier. V junction (Gauthier, 2003: 42, fig. 23). | H | V | N |
| Switzerland | | | | |
| 85 | Auvernier, Lac de Neuchatel. 2 examples. 1. Incised lines around mouth and on begin of back; 2. incised lines, two ribs and a ladder pattern around mouth (Rychner, 1979: Pl. 113:1-2). | Palafitte (2 ex) | V | Y |
| 86 | Mörigen, Bielersee. Three examples and clay moulds. Decoration: ribbed socket; ribs around mouth (Bernatzky-Goetze, 1987: p. Taf. 126:1-3, mould: Taf. 139:3a-c). Dating: Ha B3/Bronze final IIIb (Bernatzky-Goetze, 1987: 117 and Taf. 12). | Palafitte (3 ex; 2 moulds) | T | Y/N |
| 87 | Colombier, Lac de Neuchâtel. Decoration: 2 x 3 ribs around mouth (Keller, 1876: 14, Planche V:7, Taf. V:7; listed as St. Aubin on List 3 in Thrane, 1972). | Palafitte | V | Y |
| 88 | Corcelettes, Grandson, Lac de Neuchâtel. Mus. Lausanne, Inv.nos. 11883, 13571, 10185, 10187, 9185, 9994, PRE/1205, 10917 IV, 10993 IV (Information and photographs from the thesis of Viktoria Fischer (2010) and kindly made available by her). Decoration: almost all with incised lines around the mouth as far as can be seen on the small photographs. Dating: HaB3 according to Rychner, 1979. | Palafitte (9 ex.) | T (4 ex) V (5 ex) | Y |
| 89 | Morges, Grande Cité, Lac Lemman. Museum Lausanne, Inv.nos. CCB/1062, 24915, 24913, 24914, 24919, 24918, 24920, 31014, 31015. (Information and photographs from the thesis of Viktoria Fischer and kindly made available by her). Decoration: not visible on the small photographs. Dating: HaB3 according to Rychner, 1979. | Palafitte (9 ex.) | T (1 ex) V (8 ex) | ? |
| no drawing | Corcelettes, Grandson, Lac de Neuchâtel (Thrane, 1972: List 3. Mus. Biel Cs 222; Neuchâtel Corc 61; Lausanne; 13570, 009, 11889). No more information available. | Palafitte (5 ex) | | |
| no drawing | Onnens, Vaud (Thrane, 1972: List 3. Mus. Lausanne, Inv.no. 12895 III; Ruoff, 1974, List to Karte III). No more information available. | 1? | | |
| no drawing | Estavayer, Lac de Neuchatel (Thrane, 1972: List 3: Mus. Bern, 8810). No more information available. | 1? | | |
| no drawing | Nidau, Bielersee (Thrane, 1972: List 3. Mus. Biel, N125-127; Ruoff, 1974: List to Karte III). No more information available. | 3 ex? | | |

Table 3 continued

| No. | Findplace | Findtype | Socket junction | Decoration |
|----------------|---|----------|-----------------|------------|
| no drawing | Ferrages (Thrane, 1972: List 3. Mus. Bern, 9273). No more information available. | 1? | | |
| no drawing | Bevaix, Neuchâtel (Ruoff, 1974: List to <i>Karte</i> III). No more information available. | 1? | | |
| no drawing | Gland, Vaud, Creux de la Dullive (Ruoff, 1974: List to <i>Karte</i> III). No more information available. | 1? | | |
| no drawing | Genf, Genève, Eaux Vives (Ruoff, 1974: List to <i>Karte</i> III). No more information available. | 1? | | |
| no drawing | Hermance, Genève (Ruoff, 1974: List to <i>Karte</i> III). No more information available. | 1? | | |
| Bohemia | | | | |
| 90 | Třebovle, Bez. Kolín, Czechia. The only socketed knife in Czechia, almost certain import (Jiráň, 2002: <i>Taf.</i> 21:223). Dating: Stufen Bologna II und Este II, i.e. <i>am Ende der Späten Bronzezeit</i> (Jiráň, 2002: 63). | S | T | N |
| Italy | | | | |
| 91 | Este, prov. Padova, Veneto (Bianco Peroni, 1976: <i>Taf.</i> 25:189-190; <i>Taf.</i> 26:191,192; “Este”, <i>Taf.</i> 26:193). Type Nazari, not datable. | Urnfield | T | N |
| 92 | Bovolone surroundings, prov. Verona, Veneto (Bianco Peroni, 1976: <i>Taf.</i> 26:194). Type Nazari, not datable. | Urnfield | T | N |
| 93 | Caverna del Sanguinetto, prov. Savona, Liguria (Bianco Peroni, 1976: <i>Taf.</i> 26:196). Type Nazari, not datable. | Cave | T | N |
| - | No provenance. Bianco Peroni, 1976: <i>Taf.</i> 26:197, 198, 199. Knife No. 199 bears XIII decoration on the back of the blade. Type Nazari, not datable. | ? | T | N/Y |
| regional | Bologna, S. Francesco. From large vase with 1418 kg of bronzes (Bianco Peroni, 1976: 30 and <i>Taf.</i> 23:170-175; <i>Taf.</i> 24:176-177). Type S. Francesco. | H | | |
| regional | Bologna (Bianco Peroni, 1976: <i>Taf.</i> 24:178, 179, 182 (all from different graves)). Type S. Francesco. | G | | |
| regional | No provenance (Bianco Peroni, 1976: <i>Taf.</i> 24:180). Type S. Francesco. | ? | | |
| regional | ‘Sankt Lorenzen, Tirol’ (S. Lorenzo di Sebato, prov. Bolzano?). Bianco Peroni, 1976: <i>Taf.</i> 24:181. Type S. Francesco. | ? | | |
| regional | Este (Bianco Peroni, 1976: <i>Taf.</i> 24:183, <i>Taf.</i> 25:184-5, 187, 189-190). Type Morluno. | G | | |
| regional | Bologna, S. Francesco. From buried large vase with 1418 kg of bronzes (Bianco Peroni, 1976: 30 and <i>Taf.</i> 25:186). Type Morluno. | H | | |
| regional | No provenance (Bianco Peroni, 1976: <i>Taf.</i> 25:188). Type Morluno. | ? | | |
| regional | Este, prov. Padova, Veneto (Bianco Peroni, 1976: <i>Taf.</i> 27:200 [from grave 236] and 201 [from grave 143]). Type S. Stefano. | G | | |
| regional | Este, Morluno, prov. Padova, Veneto (Bianco Peroni, 1976: <i>Taf.</i> 27:202). Type S. Stefano. | S? | | |
| regional | Prov. of Padua (Bianco Peroni, 1976: <i>Taf.</i> 27:203). Type S. Stefano. | ? | | |
| Ukraine | | | | |
| 94 | Mukačevo, Carpathia. Part of hoard with four socketed axes and one gouge. Decoration: five groups of incised lines on socket (Müller-Karpe, 1961: Pl. 35C). This knife was erroneously attributed to Velký Berezny as part of a hoard, but information from the National museum in Prague stated that only a bronze hilted sword came from Velký Berezny and that the other bronze objects were found together in Mukačevo (Kobal’ 2000, 88 and <i>Taf.</i> 77). Dating BZ D - Ha A2. | H | T | Y |

| No. | Findplace | Findtype | Socket junction | Decoration |
|---|---|----------|-----------------|------------|
| United Kingdom | | | | |
| - | Three examples, provenance unknown (Jockenhövel, 1980: Abb. 1:1,2,4). | ? | T | N |
| 95 | Ham(don)-Hill, Somerset (Jockenhövel, 1980: Abb. 1:3). | G | T | N |
| 100 | Barling, Essex (Crowe, 2004: 6, fig. 3:10). Length fragment: 48 mm. | H | T | N |
| Unpublished examples from Germany, List to <i>Karte</i> 14 in Sprockhoff, 1956 (I-II). | | | | |
| no drawing | Aurich, Kr. Aurich, Niedersachsen (same as No. 25??) | ? | ? | ? |
| no drawing | Zubzow, Kr. Rügen, Mecklenburg-Vorpommern, Germany | ? | ? | ? |
| no drawing | Aschersleben (Gegend), Kr. Salzland, Sachsen-Anhalt, Germany | ? | ? | ? |
| no drawing | Beetzendorf, Kr. Salzwedel, Sachsen-Anhalt, Germany | H | ? | ? |
| no drawing | Beichlingen, Kr. Sömmerda, Thüringen, Germany | ? | ? | ? |
| no drawing | Darsekau, Altmarkkreis Salzwedel, Sachsen-Anhalt, Germany | H | ? | ? |
| no drawing | Marolterode, Kr. Unstrut-Hainich, Thüringen, Germany | ? | ? | ? |
| no drawing | Tottleben, Kr. Unstrut-Hainich, Thüringen, Germany | ? | ? | ? |

